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The

BLUE JAY

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FOR SASKATCHEWAN AND ADJACENT REGIONS

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Bluebird house project (see page 167)

Saskatoon Star-Phoenix Photo

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SASKATCHEWAN NATURAL HISTORY SOCIETY
Regina, Saskatchewan

The Trouble with DDT

We are pleased to note that the city councils in both Regina and Saskatoon have discussed the problem of DDT and have decided to put curbs on its use. We commend them for their conscientious consideration of the problem and for their decision to stop using DDT pending further investigation. This is in keeping with our increasing awareness of the dangerous potential of persistent pesticides such as DDT. Sweden and the states of Michigan and Arizona now have completely banned the use of DDT and in California it will be banned from home and garden use beginning January 1, 1970.

For several years naturalists, especially ornithologists, have been concerned about DDT for it is toxic and persistent. It does not break down quickly in the environment and so the residue increases each year as more of it is used. It is stored in certain animal tissues and animals at the top of a food chain get such large quantities that they may be killed or at least lose their ability to reproduce. It is now a proven fact that DDT can cause and is causing the extinction of the Peregrine Falcon, the Bald Eagle and some other forms of wildlife.

There will be considerable protest from chemical companies and some agricultural groups against movements to limit or ban the use of DDT for it is the most effective and the least costly of major pesticides. There will be claims that there is lack of evidence that DDT is harmful to man, although there is evidence that it is carcinogenic in mice. The average level of DDT in humans in North America is now 12 parts per million, an amount considered unsafe for food if present in cattle. There will also be claims that DDT is a great benefactor of mankind for it has saved millions of lives by safeguarding food production.

If we ban the use of DDT attention will have to be given to preventing the use of pesticides that are even more toxic and persistent. Many related hydrocarbons, including dieldrin, aldrin, heptachlor, chlordane, lindane, endrin and toxaphene remain toxic for many years and they all accumulate in animals, including man, at the top of the ecological ladder. The persistent pesticides must be replaced by degradable chemicals such as malathion.

In March 1969 the United States Food and Drug Administration confiscated 22,000 pounds of Lake Michigan coho salmon which contained dangerous levels of DDT. These fish contained DDT residues ranging from 13.67 to 19.48 ppm. Although no tolerance level for DDT in fish products had been set the FDA consider 3.5 ppm. as the top allowable level. Strong representations have been made by local vested interests and the FDA have set the tolerance level in fish temporarily at 5 ppm. (Considerably higher levels have been recorded in some Canadian fish). As a result of these events the Michigan Department of Agriculture has dropped its support of DDT; registration of the chemical in Michigan has been cancelled, and it is expected that it will soon become illegal to sell DDT in Michigan.

We once thought that the earth was big enough to absorb anything in its air, soil, rivers and seas, but persistent pesticides like DDT have spread so that even the Eskimos have DDT in their tissues. After 20 years of spraying for mosquitoes, salt marshes on Long Island were found to contain up to 32 pounds of DDT per acre. Pesticide residues will continue to increase and irreparable damage will likely be done to the environment and even to the human race unless prompt action against such pollutants is taken.

In March Sweden banned the use of DDT for two years, the first country to put a complete ban on the use of DDT. The U.S. Department of the Interior is advocating a phasing out of the use of DDT throughout the next few years. Our city councils in Saskatchewan are taking steps against DDT but in addition gardeners and farmers must stop using DDT if increasing accumulation and damage is to be halted.

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STEVE MANN, RANCHER-NATURALIST OF SKULL CREEK (1895-1968)

by Margaret Belcher, Regina

At the turn of the century, before Saskatchewan became a province, the first settlers were already learning to know the flora and fauna of a new land. If they were ranchers or farmers interested in animals and plants, the daily round of activities provided them with opportunities to pursue their hobby. Driving oxen on a breaking plough, or sitting for long days in the saddle, they made observations that would escape the notice of their present-day counterparts with noisy tractors or ranch trucks.

At first, there were no natural history societies or museums to encourage reports from these unassuming observers. However, when a modest Provincial Museum was established in Regina in 1906, people who wanted to share their observations with others began to write in. The names of people like George Lang, farming at Indian Head, or Laurence B. Potter, ranching at Eastend, figure largely in the Museum's early correspondence. Indeed, when H. H. Mitchell drew up a catalogue of Saskatchewan birds (1924) he used the observations of farmers and ranchers who were watching birds in widely separated parts of the province. One of the persons who established contact with the Museum at that time and with other people in the province interested in nature, was Steve Mann of Skull Creek, a little country post office in the ranching country near Maple Creek.

Unlike Lang and Potter, Stephen A. Mann was not a newcomer to the province. He was born in the Southwest in 1895—the first white child born in the Skull Creek area. Today his son Robert Mann lives on the family ranch where both he and his father were born, and where Robert was in partnership with his father in their combined ranching and farming operation until the latter's death in

August, 1968. Robert Mann's account of his father's life shows how the rancher's hobby of nature study must be viewed in the larger framework of the operations by which he makes his living and his contribution to the life of the community:

"My father was born here on the ranch on the eleventh of June 1895, the second living son of James and Charlotte Mann, née Syred. James Mann came from Devonshire, England, and as he grew up learned the tanner's trade. He emigrated to Montreal at the age of 18 and there worked as an orderly in the Montreal General Hospital. Charlotte Syred was born in Torquay and emigrated to Canada with her parents when she was a child. She trained as a nurse at the Montreal General Hospital and nursed the wounded of the Riel Rebellion of 1885 at Winnipeg. In 1892 James and Charlotte saw an ad for a married couple in this area so they were married and came west, working at the ranch two miles up the Skull Creek from where they eventually settled in 1894. The farm on which they settled was taken up as squatter's rights, and later homesteaded.

"One day in 1900 the Mann family sat down to dinner, their usual one of roast beef, potatoes and possibly a suet pudding, when Jules Quesnelle, an old scout and freighter, dropped in with a bag of mail. He said to Mr. Mann, 'Here is the mail and you are the postmaster.' The dishes were moved over. They had no key to open the bag so it was slit open. From then on for 65 years the mail plied between Maple Creek and Eastend. At the last, there was only one delivery a week, from Piapot, and the post office was closed in 1965, when my father, at the age of 70, retired from the position of postmaster which he had taken over from his father.

"The Mann home was for many



Steve Mann in front of Skull Creek Post Office which served the community from 1900 to 1965.

years a kind of crossroads for the community and early settlers for 15 to 20 miles to the south and east of here. Dad had the opportunity of meeting and knowing the drivers and travellers who travelled on the stage route between Maple Creek and East-end, and told many stories about them. One of the visitors from the road whom he remembered as a boy was an Old Country Frenchman who stayed a week because my grandmother knew French, and who taught the children some of the rudiments of the language.

"My father did not tell us much about his boyhood. His playthings, I know, were simple. I remember him telling of making play corrals of buffalo bones, and I'm sure his father made him a wooden toy wagon, just as he made me one when I was small, with wheels cut from the cross section of a log and axles from a straight branch, the rest being put together out of odds and ends that were at hand. His keen interest and observation of nature must have started early

because he knew every piece of ground, particularly along the creek, for three or four miles in either direction.

"As he grew up he had very little formal education and his 3R's came mostly during two hours after supper in the long winter evenings when my grandfather taught the children from an old speller that he had brought from England and I think from books bought out of the Eaton's catalogue and sent by grandparents from Montreal. Young and old alike worked hard together to survive, but schedules were not apparently so rigid and there were not the modern conveniences to demand your attention, so there was much time for reading from the large stock of books which were kept on a high shelf behind the big easy chair in the living room. There were geography books, an encyclopedia set, a good dictionary (which I think Dad knew by heart), and also a large number of newspapers and periodicals, for example the *Winnipeg Free Press*, *Family Herald*, *Farm and Ranch Re-*

view, *Saturday Evening Post*. Later there were also books by authors such as Gene Stratton Porter, Zane Grey, J. Fenimore Cooper, Curwood and many others. Reading was difficult in the poor light; I remember Dad telling of reading by the light of a wick set in tallow in a jam tin or saucer before the days of coal oil lamps. He was also taught for a time by an aunt who then lived nearby. His only school education came when a local school was established for a brief six months.

"His chores consisted of running the old hand swing washing machine, the barrel churn (the family milked cows and sold a great deal of butter) and tending a small flock of sheep (which he hated owing to the complete disregard that an old ewe, the leader of the flock, had for fences). This seemed to leave plenty of time for wandering about the bush and country looking for adventure. He told of finding buffalo bones and skulls, old firearms, pieces of carts, a canoe paddle and human skulls; of visiting the old "76" ranch chuckwagon which used to camp a quarter of a mile below the building when trailing and during fall roundup; of a string of cattle four or five abreast stretching from north of our place to the top of the "Bench" (Cypress Hills) four and one-half to five miles away; of a lightning storm which struck after camp was pitched and stampeded the herd, so that a portion of the Manns' fence was completely carried away and saddles, bridles and other pieces of the riders' equipment were found later where they had been lost in the haste of trying to get remounted to turn the herd. He told of several prairie fires that set the grassland dangerously ablaze. He also remembered the winter of 1906-07 when it turned cold and snowy the beginning of November and remained that way without a break until the middle of May. After a blizzard his father discovered a "76" cow buried in a snow bank in the yard when he saw its breath coming out of a hole in the snow. A large band of sheep was

also lost when they drifted over a cut bank before a storm. He also told of how the "76" tried to recoup some of their losses by hiring local settlers to bring in the hides. They would start the hide with a knife and then hitch a team of horses to it and pull it off. The stench of dead cattle was in the air for some time after the big blizzard.

"It was during his childhood and youth that his interest in nature began, when he had time to roam and when nature was still untouched. He watched the drummer partridge make its peculiar drumming sound on a two-foot thick hollow cottonwood log across the creek behind the old house, and the shrike single out a sparrow from the flock to chase and kill it. He discovered that the sound of packs of coyotes that he loved to hear, and are now almost gone, was made, not by a pack, but by two coyotes only standing face to face, as he watched them in the moonlight, yapping into one another's mouths. He watched the sharp-tailed grouse dance and the weasel hunt. After dinner one day he took eleven gophers away in half an hour from a weasel who was feeding her young. These are but a few of the things he observed and later shared with us and with his friends from childhood, Peter and George Swain. He also had a fine collection of birds' eggs."

In Robert Mann's account of his father's childhood we see the natural development of his life-long interest in nature and the outdoors. The comments of Steve Mann's sister Helena (Mrs. J. Bennetto of Skull Creek) reflect this, too, for she tells how she used to tramp with him on his bird nesting and bird watching tours, and on his hunting and trapping trips, as well as riding, skating, dancing and playing tennis with him. Later, when Steve Mann had children of his own, his wholesome enjoyment of life was communicated to them.

In the summer of 1928, Steve Mann married Marjorie Nickell, a young woman from Ontario who had been teaching a few years before in the local Manville school. As their two



Ranching country at Skull Creek — the Manns' "7-Anchor Ranch".

children, Helen and Robert, grew up, they came to share their parents' love for their ranch home and to appreciate in their father what Helen called his "immense awareness and love for everything in nature." "As a youngster," Helen tells us, "I can often remember climbing the hill behind the house with him to watch an oncoming thunder storm. Even in the rush of spring work there was always a bouquet of the first crocuses — carried under his hat, as he would have his hands full with a four-horse team, or saddle horse. The first shooting stars would be brought in, as well as any unique or particularly beautiful specimens, to be shared and admired. Fine Sunday mornings were usually spent in the hills on horseback. We used the excuse that he wanted to look around the cattle, but there was always an eye for antelope, deer, or coyote — any bird or animal life. I can remember riding out one evening checking cattle, and Dad's amusement at the activities of a coyote, teasing the dog — luring him away, then pursuing him almost up to where Dad was sitting, waiting for me to complete my circle. He had immense affection for the coyote, and

never allowed bait on our land, even though he was unable to persuade others around us of the value of the coyote economically and esthetically. If he wasn't out on horseback, he often went for a walk in the bush, "just to see what's there." Numerous were the occasions when he would appear at the back door, saying "Come on out: there's something I want you to see" (or hear, as he was an authority on bird calls and song).

"His interest in archaeology was as keen as his interest in birds and conservation. A favourite form of recreation was covering a blown field, pace by slow pace, watching for any artifacts uncovered by the wind. He was a keen observer, and, as well as wild things, odd stones and artifacts of any type caught his eye. Even at the time of his death, he had some interesting pieces in his pocket that he had picked up along the way".

It was partly because he had known Indians personally in the early days, that Steve Mann was interested in Indian lore, and he belonged to both the Lethbridge and Regina archaeology groups. Many visitors called at his home to see his collections, which

he had started before his death to assemble into a little museum in his basement study. Mrs. Mann and her daughter Helen Schuler are continuing to classify the pottery and artifacts. In this little "home museum" which many of us have visited, there is also a "pioneer" collection of household articles and early weapons, and a collection of articles connected with the family history, as well as Steve Mann's collection of birds' eggs.

In an old ledger that Mrs. Mann has loaned to us are preserved the bird notes kept by her husband, of early spring migration dates and unusual bird occurrences, over a long series of years from 1927 to 1968. Because he kept such records, Steve Mann was regularly contacted by Laurence Potter who lived with his sister on a ranch at Eastend. Potter used to drop in at the Mann ranch from time to time, paying them at least one visit a year to keep up with Steve's records. The two would talk over the year's interesting occurrences, and some of these reports eventually made their way into Potter's 1943 addition to Mitchell's list, "Saskatchewan bird records made since the publication of Mitchell's catalogue of Saskatchewan birds in 1924" (*Blue Jay*, 1:25), or W. Earl Godfrey's *Birds of the Cypress Hills and Flotten Lake Regions* (1950).



Team work — Steve Mann and his son Robert building an earthwork dam to hold water for livestock and garden.

Mann also knew Charles F. Holmes of Dollard and Spencer Pearse of Eastend, although he had more contacts with Potter with whom he also corresponded.

Among the interesting bird records emanating from this little group of keen observers in the southwest (Cypress Hills) area of Saskatchewan, Mann's name is cited by Godfrey (1950) for his report of the Mockingbird (seen by Mann on October 23, 1929, and collected on November 1 and sent to the Provincial Museum). Godfrey does not mention, however, what I think to be an equally interesting collection by Mann of a Townsend's Solitaire, "taken as a specimen and sent to Regina" April 22, 1945. There are other records in Mann's field notes of which Godfrey may not have been aware—he does not include, for example, in his rather detailed report of sight and sound records, Mann's reports of species of such uncommon occurrence as the Red-headed Woodpecker (Apr. 2, 1927; July 7, 1933; June 1, 1934; May 19 and 24, and June 4, 1936; June 21, 1937; June 4, 1947; May 22, 1956; June 9, 1957; June 5, 1961; June 3, 1963; June 6, 1966; June 4, 1968), the Lewis' Woodpecker (May 16, 1949), and the Black-headed Grosbeak (May 24, 1927; May 17, 1955; May 22, 1960).

The most exciting recent ornithological report from Mr. Mann was his record of the Mountain Chickadee at Skull Creek, published in the *Blue Jay*, 25:76. For this rare species, reported for the first time in Saskatchewan, the terse entry in the old ledger simply reads: "Mountain Chickadee. [No. seen] 1. [First seen] Nov. 30. [Next seen] Dec. 3 - 5 - 6 - 7 - 8 - 9 - 11. Seen every day at feeder through until March 24-25-26. Heard singing March 15 and 16 on mild spring days. Seen until Ap 10 - Ap 14 - Ap 15 - Ap 20 - Ap 22." [1966-67]

It was through Laurence Potter that Steve Mann got to know of Mrs. Isabel M. Priestly, the Yorkton naturalist who later founded the *Blue Jay* magazine. Potter told Mrs. Priestly

about Mann, and Mrs. Priestly then wrote to him about his records. Steve Mann was thus corresponding with Mrs. Priestly before the beginnings of the *Blue Jay*, which began publication in 1942 as a simple newsletter "to act as a connecting link between nature lovers in Saskatchewan."

Steve Mann was a contributor from the first to the *Blue Jay* magazine, and therefore also a charter member of the Saskatchewan Natural History Society when it was organized in 1949. It was through the Saskatchewan Natural History Society that I met the Manns, at the first summer meeting of the Society held at Fort Qu'Appelle in 1955. Two years later (June 1957), the Manns themselves organized the SNHS summer meet at the Cypress Hills' Provincial Park, and in October 1962 Steve Mann became the president of the society for a two-year term. Because of his open and outgoing personality, as well as his long connection with the organization, Steve Mann was certainly one of the most widely and well known of the Society's members.

This connection with the Saskatchewan Natural History Society does not tell the whole story, however. In fact, the SNHS would never have come into being had it not been for many long-established friendships that preceded the official organization of the Society. Typical of these friendships was the one that developed from very simple beginnings between Steve Mann and Manley Callin, one of the most dedicated amateur birdmen in Saskatchewan. In 1928 an uncle of Callin's, who was working in the Piapot district, told him about a Steve Mann who was interested in birds, and suggested that he should write to him.

Callin wrote twice to Mann during that fall and winter, and received two letters from him in reply, which he still has in his possession. They did not write again, but they both continued their study of birds, and finally met through the SNHS, almost 30 years later!

In Steve Mann's first letter to

Manley Callin (January 28, 1929) he told how his own interest in bird studies had increased when he began to make notes (in 1927 and 1928) of migration dates and unusual occurrences; he described the thrill of seeing for the first time in 1928 the Yellow-breasted Chat, which had only been noted by two others in Saskatchewan (H. H. Mitchell and L. B. Potter), and in the previous year the Mockingbird, which Potter had collected to send to the Museum in Regina. In the second letter (March 21, 1929) a word of caution was extended to Callin, then a young beginner, about identifying new species. I am quietly amused now, knowing Callin as one of the most scrupulously accurate of bird observers, to read Mann's advice to him: "A person cannot be too careful in identifying birds"!

The part that Mann played in the Saskatchewan Natural History Society was typical of the attitude he took toward all community activities — he wished to pull his full share of the load as a member of the team. His son remembers him telling of a characteristic incident when he signed up members for the Territorial Grain Growers, the organization that preceded the Saskatchewan Wheat Pool. His membership number was 110-103 (the second figure denoting the order of signatures) because he signed his own name last when he handed the list in!

Steve Mann was a faithful member of the Anglican Church and a strong supporter of its country parish activities. For over 45 years he was a member of the Oddfellows' Lodge, in which he held the office of Noble Grand. He served as president of the Maple Creek Old Timers' Association, and at the time of his death was a director of Tompkins Credit Union. He was a member of the Piapot Branch of the Royal Canadian Legion, having served with the Canadian Army from 1917-1919. Just as in the community, he was always part of an active team, at home on the ranch his partners were



Ranch home of the Mann's — Steve's house at left, Robert's at right.

his wife and his son, and together they planned and worked to make a worthwhile way of life as well as a living. Theirs was the first commercial herd to be placed on progeny test in Saskatchewan.

Sports and recreational activities were also entered into with great zest. In his younger days, he played soccer football, and up until the time of his death he curled every winter. He still played softball with the local teams while in his sixties, and was batting out flies to his grandchildren in his last summer. When he was younger, he and his sister maintained a turf tennis court which was a gathering place for the young people in the evening after the horses were brought in from the fields, and on a Sunday afternoon. He loved to dance, and could call a square dance — although he would much sooner take part in it!

Last but not least, he was a horseman. During his lifetime he had broken many broncs, and right to the last he rode often, "straight in the saddle", as his son describes him, "as

if he and the horse were one." His active life came to an end as a result of injury received when he was thrown against the pommel of the saddle on a bucking horse. When he died a few days later in hospital, it was difficult, and yet fitting, to think that his life had ended in action.

Many heartfelt tributes were paid Steve Mann, for he was beloved both by his own Skull Creek community and by his wide circle of friends in the Saskatchewan Natural History Society. One of the most touching was the tribute of Dr. Unger who had been the Manns' doctor at Maple Creek in his brief practice there. He wrote to Mrs. Mann: "Our acquaintance with your husband was only fleeting, yet he was one of those rare individuals whose humble character and exemplary life, quite unintentionally leaves a profound source of inspiration on one's own life; a gift rarely received from life's endless procession of acquaintances. We will remember especially his quiet love of the great outdoors."

THE LAST MOUNTAIN LAKE WILDLIFE AREA, SASKATCHEWAN

by **J. P. Hatfield**, Canadian Wildlife Service, Simpson, Saskatchewan



Sandhill Cranes at Last Mountain Lake, October, 1963

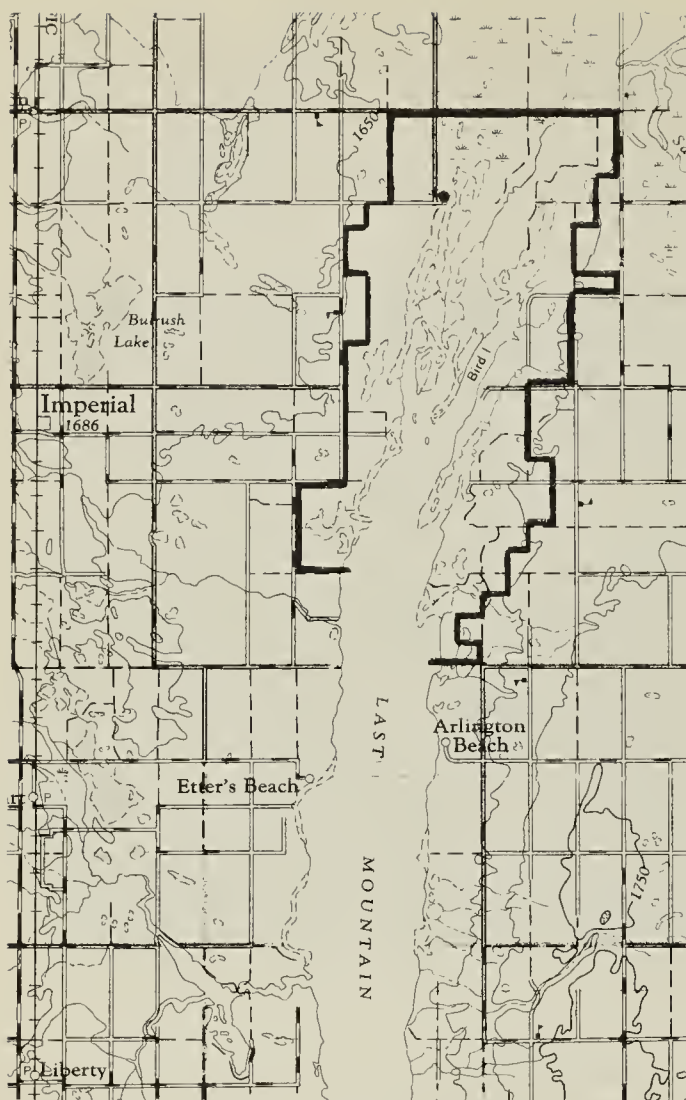
Last Mountain is a "blue bump" on the open prairie about 50 miles north of Regina, Saskatchewan. It was a landmark in the early days of fur-trading and buffalo hunting in that territory. Ten miles west of Last Mountain is a lake, named after the "mountain" and also known locally as Long Lake, since it is 55 miles in length and seldom exceeds two miles in width. The north end of this lake is approximately 80 miles north of Regina and 100 miles southeast of Saskatoon, Saskatchewan.

On June 8, 1887, the islands and parts of the adjoining shore of the northern 11 miles of Last Mountain Lake were "reserved from sale and settlement and set apart as breeding grounds for wild fowl." This was the first area reserved for wildlife in North America by a Federal Government. After the Migratory Birds Convention Act was passed in 1917, the reserve became known as the Last Mountain Lake Bird Sanctuary.

In April 1966 a statement of National Wildlife Policy and Program was made in the House of Commons. The policies allowed purchase and

management of land to preserve and improve migratory bird habitat and to influence local distribution of birds as a means of controlling damage to cereal crops.

Crop depredation by Sandhill Cranes (*Grus canadensis*) and waterfowl of commercial cereal crops at the north end of Last Mountain Lake has been an acute problem over the past 20 years. The rising costs of farming aggravated this situation. In an effort to alleviate this problem the Canadian Wildlife Service purchased 14,620 acres of marginal farm lands around the north end of Last Mountain Lake, thus establishing the first Federal Wildlife Area in Canada. Approximately 8,500 acres of Crown land administered by the Province of Saskatchewan are located adjacent to this Wildlife Area. Management of the combined area is coordinated by the Canadian Wildlife Service. In co-operation with the Wildlife Branch of the Saskatchewan Department of Natural Resources a wildlife management area is being established and is called the Last Mountain Lake Wildlife Area.



Boundaries of Last Mountain Lake Wildlife Area, 1969.

The Wildlife Area can be reached from the Trans-Canada Highway by driving to Govan or Hatfield some 80 miles north of Regina, on Highways 11 and 20. The lake is about nine miles west of those towns and can be reached by side roads. An alternative route, should you be driving from the west on the Trans-Canada Highway, is via Highway 2, north from Moose Jaw to Imperial or Simpson. The lake is approximately eight miles east of those towns. Simpson is 90 miles southeast of Saskatoon on Highways 14 and 2 respectively. The main country roads around the Wildlife Area are gravelled, but the side roads tend to get very muddy during rain showers.

The Wildlife Area lies in typical transition zone between grassland and forest. Topography is gently to moderately undulating. Soil texture is light with extensive alkaline areas.

Animals characteristic of the transition zone are common, but the most notable feature of native fauna is the variety and abundance of both migratory and resident birds. In 1968 over one hundred species of birds were observed. The number of bird species could top the two hundred mark as the area becomes better known. At least five Sharp-tailed Grouse (*Pedioecetes phasianellus*) dancing grounds exist. The author has observed eight Whooping Cranes (*Grus americana*) either on or near the area over the past two years. During the fall migration period up to 20,000 Sandhill Cranes, 10,000 Double-crested Cormorants (*Phalacrocorax auritus*), 4,000 Whistling Swans (*Olor columbianus*), thousands of ducks and large numbers of other birds may be seen at the north end of Last Mountain Lake. A large variety of wild flowers can be seen from May to October throughout the area.

With the formation of the Wildlife Area from an existing federal bird sanctuary, provincial game preserve and acquired agricultural land, changes in land use have occurred. By June of this year 7,155 acres of former grain producing land have been con-



Upland Plover near Last Mountain Lake, 1966



Ring-billed Gull colony at Last Mountain Lake, May, 1969

verted to forage production. The forage will provide nesting cover for birds and act as buffer zones between lure crops and commercial cereal crops grown outside of the area. Local farmers will be allowed to cut and remove the forage after the nesting period is over. The haying operations will promote green forage for grazing geese and will reduce the fire hazard by the removal of excess grass.

Barley is sown in lure crops to alleviate depredation on surrounding commercial cereal crops by Sandhill cranes and waterfowl. Lure crops are planted on 17 plots of 60 acres each, strategically located around the Wildlife Area. Grazing is allowed on a limited basis on seven small pastures. In some pastures grazing helps to control emergent marsh vegetation. If this were not done the marsh vegetation would get so thick that young ducks could not move freely in their search for food.

Public activities on the Wildlife Area include fishing, swimming, camping, boating, nature study, picnicking, hunting and hiking. Guided tours can be arranged for groups by contacting the Project Manager.

Future plans call for the construction of a nature interpretative centre near the headquarters of the Wildlife

Area. Here the public will be informed of the natural features and management operations, and where they can be seen. Other development plans include the planting of shelter belts for wildlife cover, the construction of ponds for waterfowl and the marking of nature trails.

A visit to the Last Mountain Lake Wildlife Area, especially during the months of May, June, September or October, could be an experience of a lifetime.



Photos by J. P. Hatfield

Young White-tailed Jack Rabbit in the sanctuary, May, 1969.

COOPERATIVE SPRING MIGRATION STUDY, 1969

Compiled by MARY HOUSTON 863 University Drive Saskatoon	DILKE J. B. Belcher	ERINFERRY Mrs. E. A. Dodd	ESK R. F. Klatt	FORT SAN E. M. Callin	INDIAN HEAD Mrs. Ken Skinner	KELFIELD Eva Moore	KELVINGTON S. Waychesen	LEADER Daisy Meyers	NIPAWIN S. & D. Riome	NOKOMIS J. W. & K. Hamilton	PRINCE ALBERT E. D. Beacham
	Whistling Swan	Ap 11	My 5	My 3	Ap 12	Ap 14	-----	-----	Ap 14	Ap 17	Ap 21
	Canada Goose	Ap 13	Ap 13	Ap 6	Ap 8	Ap 10	Ap 6	Mr 21	Ap 14	Ap 13	Ap 12
	Mallard	Ap 6	Ap 8	Ap 5	Ap 9	Ap 13	Ap 11	-----	Ap 12	Ap 9	Ap 12
	Pintail	Ap 5	Ap 12	Ap 10	Ap 6	Ap 9	Ap 11	-----	Ap 12	Ap 13	Ap 12
	Marsh Hawk	Ap 1	Ap 12	Ap 5	Ap 5	Ap 5	Ap 20	-----	Ap 9	-----	Ap 12
	Killdeer	Ap 11	Ap 10	Ap 9	Ap 7	Ap 9	Ap 12	My 5	Ap 9	Ap 10	Mr 26
	Common Snipe	-----	-----	Ap 20	Ap 28	Ap 29	My 4	-----	Ap 26	-----	-----
	Mourning Dove	My 5	My 9	Ap 13	My 2	-----	My 5	Ap 22	Ap 7	My 7	My 5
	Common Nighthawk	-----	-----	My 29	Jn 1	Ap 28	My 27	-----	My 25	-----	My 23
	Ruby-throated Hummingbird	-----	-----	My 25	My 25	My 22	-----	-----	My 29	-----	My 27
	Yellow-shafted Flicker	Ap 16	Ap 20	Ap 14	Ap 15	Ap 22	Ap 18	Ap 15	Ap 18	Ap 14	Ap 17
	Eastern Kingbird	My 21	My 23	My 21	My 1	My 19	My 29	-----	My 31	My 19	My 25
	Eastern Phoebe	-----	-----	My 2	My 14	-----	Ap 19	-----	Ap 28	-----	Ap 14

Barn Swallow	Ap 29	My 11	My 4	My 3	Ap 30	My 3	My 12	-----	My 9	My 19	Ap 29
Purple Martin	-----	Ap 24	-----	Ap 25	Ap 20	-----	My 7	-----	My 18	Ap 30	My 8
Common Crow	Mr 30	Ap 2	Mr 28	Mr 26	Mr 19	Mr 26	Mr. 30	Mr 18	Ap 3	Ap 4	Ap 1
House Wren	My 8	-----	My 20	My 5	My 14	My 18	My 12	-----	My 23	My 12	My 17
Catbird	-----	-----	-----	My 17	My 14	My 17	My 30	-----	-----	-----	Jn 3
Brown Thrasher	My 10	-----	My 14	My 13	My 14	My 14	My 18	My 17	-----	My 13	-----
Red-eyed Vireo	-----	-----	-----	My 24	Jn 1	-----	My 16	-----	Jn 1	-----	Jn 3
Black-and-white Warbler	-----	-----	-----	My 24	-----	-----	-----	-----	My 15	-----	-----
Tennessee Warbler	-----	-----	-----	My 14	-----	-----	My 16	-----	My 18	-----	My 18
Yellow Warbler	My 13	-----	-----	My 13	My 10	My 9	My 18	My 16	My 28	My 14	My 17
Myrtle Warbler	-----	-----	-----	My 3	My 15	My 3	Ap 19	-----	Ap 20	Ap 30	Ap 27
Blackpoll Warbler	My 20	-----	-----	My 11	-----	My 15	My 15	-----	My 16	-----	My 19
Ovenbird	-----	-----	-----	My 24	-----	-----	My 16	-----	My 17	-----	My 18
American Redstart	-----	-----	My 16	My 24	My 5	-----	-----	-----	My 16	-----	Jn 3
Bobolink	My 22	-----	-----	My 22	Ap 14	-----	My 29	-----	-----	-----	My 26
Red-winged Blackbird	Ap 10	Ap 19	Ap 16	Ap 11	My 3	Ap 13	Ap 12	Ap 13	Ap 15	Ap 13	Ap 12
Baltimore Oriole	My 22	-----	My 17	My 14	My 20	My 14	My 16	My 20	My 18	My 9	My 5
Rose-breasted Grosbeak	-----	My 14	-----	My 24	-----	My 14	My 18	-----	My 18	-----	My 18
American Goldfinch	-----	-----	My 27	My 22	My 25	My 23	My 23	-----	My 28	My 16	Jn 1
Slate-colored Junco	Ap 5	Ap 7	Ap 9	Ap 5	Mr 31	Ap 8	Ap 7	Ap 6	Ap 8	Ap 5	Ap 12
Chipping Sparrow	My 6	Ap 17	-----	Ap 28	My 4	My 27	My 7	-----	My 10	-----	Ap 27
White-crowned Sparrow	My 3	Ap 19	-----	Ap 29	My 4	My 3	My 15	My 4	My 3	My 13	My 9
White-throated Sparrow	Ap 30	Ap 19	-----	Ap 28	My 4	My 10	My 4	-----	My 1	My 3	My 4

COOPERATIVE SPRING MIGRATION STUDY, 1969

Compiled by MARY HOUSTON 863 University Drive Saskatoon	RAYMORE Wayne Harris	REGINA Betty Binnie, R.N.H.S.	SASKATOON J. B. Gollop and Saskatoon N.H.S.	SHEHO Wm. Niven	SPIRIT LAKE Joyce Gunn	TULIS Mrs. E. C. Boon	TOGO W. J. Krupp	VALLEY CENTRE W. & D. Renaud	YELLOW CREEK Derwent Mazur	YELLOW CREEK Rosemary Nemeth
	Whistling Swan	Ap 28	Ap 9	Ap 13	Ap 17	My 3	Ap 28	-----	Ap 28	Ap 6
	Canada Goose	Ap 6	Ap 8	Ap 2	Mr 23	Ap 7	Ap 6	Ap 24	Ap 10	Ap 8
	Mallard	Ap 7	Ap 7	Ap 7	Ap 8	Ap 10	Ap 5	Ap 11	Ap 11	Ap 11
	Pintail	Ap 7	Ap 5	Ap 5	Ap 11	Ap 11	Ap 5	Ap 12	Ap 10	Ap 11
	Marsh Hawk	Ap 6	Ap 8	Mr 23	Ap 7	Ap 13	Ap 11	Ap 11	Ap 12	Ap 6
	Killdeer	Ap 6	Ap 8	Ap 5	Ap 8	Ap 11	Ap 6	Ap 11	Ap 9	Ap 9
	Common Snipe	Ap 28	-----	Ap 21	My 8	-----	-----	Ap 18	-----	Ap 20
	Mourning Dove	Ap 11	Ap 9	Ap 6	Ap 15	Ap 28	-----	Ap 30	Ap 16	My 4
	Common Nighthawk	My 14	My 30	My 17	My 26	My 12	-----	Jn 3	My 28	My 4
	Ruby-throated Hummingbird	Jn 10	My 28	My 24	My 19	My 22	-----	My 27	My 27	My 25
	Yellow-shafted Flicker	Ap 16	Ap 7	Ap 14	Ap 13	Ap 15	-----	Ap 17	Ap 14	(My 24)
	Eastern Kingbird	My 15	My 16	My 16	My 17	My 18	My 29	My 17	My 26	My 29
	Eastern Phoebe	My 1	My 13	Ap 27	Ap 19	Ap 15	-----	My 8	-----	Ap 27

Barn Swallow	My 5	Ap 30	Ap 26	Ap 23	My 1	My 7	My 8	My 1	My 4	My 6
Purple Martin	My 6	Ap 26	My 24	My 1	My 16	-----	Ap 24	My 9	My 2	Ap 23
Common Crow	Mr 31	Mr 24	Mr 16	Ap 2	Mr 29	Mr 25	Mr 25	Mr 23	Ap 3	Mr 30
House Wren	My 9	My 7	My 16	My 16	My 14	-----	My 14	My 19	My 17	My 26
Catbird	My 29	My 17	My 24	My 26	My 2	-----	My 17	Jn 1	-----	Jn 5
Brown Thrasher	Jn 8	My 13	My 15	My 16	My 22	My 30	My 20	My 17	-----	-----
Red-eyed Vireo	-----	My 27	My 24	My 18	-----	-----	My 28	Jn 3	-----	-----
Black-and-white Warbler	My 18	My 1	My 4	-----	-----	-----	My 26	-----	-----	-----
Tennessee Warbler	My 20	My 15	My 15	My 11	-----	-----	-----	My 13	-----	-----
Yellow Warbler	My 18	My 7	My 14	My 17	My 22	-----	-----	My 12	-----	(Jn 20)
Myrtle Warbler	My 7	Ap 25	Ap 26	Ap 26	Ap 24	-----	Ap 16	My 4	Ap 25	-----
Blackpoll Warbler	My 20	My 2	My 15	My 17	My 19	-----	My 9	-----	-----	-----
Ovenbird	-----	My 15	My 15	-----	-----	-----	My 17	-----	-----	-----
American Redstart	-----	My 22	My 16	-----	-----	-----	My 21	-----	-----	-----
Bobolink	-----	-----	My 18	-----	-----	-----	-----	-----	-----	-----
Red-winged Blackbird	Ap 11	Ap 7	Ap 14	Ap 11	Ap 12	Ap 14	Ap 6	Ap 10	Ap 11	Ap 17
Baltimore Oriole	Jn 10	My 13	My 15	My 22	My 14	-----	-----	My 25	Jn 7	(Jn 18)
Rose-breasted Grosbeak	My 16	My 13	My 15	My 18	My 22	-----	My 21	My 14	My 17	My 24
American Goldfinch	My 17	My 17	My 17	My 22	My 31	My 9	My 20	My 18	My 23	My 24
Slate-colored Junco	Ap 8	Mr 22	Mr 30	Ap 6	Ap 6	Ap 7	Ap 7	Ap 5	Ap 9	Ap 8
Chipping Sparrow	My 18	Ap 26	My 12	My 9	My 12	-----	Ap 16	My 18	-----	Ap 13
White-crowned Sparrow	My 8	Ap 16	Ap 25	My 3	-----	-----	Ap 25	Ap 14	My 4	My 13
White-throated Sparrow	My 7	Ap 25	Ap 25	Ap 3	Ap 30	-----	Ap 25	Ap 26	-----	My 18

BIRDS OF WARKWORTH CREEK, MANITOBA

by **Carroll D. Littlefield** and **Allan J. Pakulak**

Department of Fishery and Wildlife Biology, Colorado State University,
Fort Collins, Colorado

A bird survey was conducted along Warkworth Creek (Figure 1) and its tributaries from June 11 through June 16, 1968, while we were doing research on Canada Geese (*Branta canadensis*) for the Manitoba Wildlife Branch, Department of Mines and Natural Resources. It was initiated near Chesnaye, Manitoba and proceeded northward for 52 miles to the Churchill River, 10 miles southwest of Churchill, Manitoba (58° 45'N, 94° 05'W). To our knowledge this is the first ornithological investigation of this area, although several studies have been conducted in the immediate vicinity of Churchill during the past 40 years. The transect route was extremely remote and was accessible only by helicopter, canoe and/or walking.

The route transected five vegetative zones: (1) a sandy ridge; (2) open tundra with wooded creek bottoms; (3) mixed coniferous forest and tundra; (4) low coniferous forest; (5) tall coniferous forest. Vegetation on the sandy ridge included an overstory of black spruce (*Picea mariana*) and larch (*Larix laricina*) with an understory of Labrador tea (*Ledum plaustrum* and *L. groenlandicum*), willows (*Salix* spp.) and several unidentified shrubs. Open tundra vegetation consisted predominantly of reindeer moss (*Cladonia rangiferina* and *C. alpestris*) with willow, larch, and black spruce occurring near lakes and creeks. Mixed tundra consisted of approximately one-half tundra and one-half coniferous forest with some trees reaching heights of 20 feet. Labrador tea was also abundant in these situations. Low coniferous forest ranged from 10 to 25 feet, while tall coniferous was 20 to 30 feet in height. These two types were interspersed with willow, sedge (*Carex* spp.), and hummock swamps. Nineteen miles

were travelled in tall coniferous; 10 miles in open tundra; nine miles in mixed coniferous and tundra; and eight miles in low coniferous. The sandy ridge that was investigated consisted of approximately 2,500 acres surrounded by open tundra. It was located approximately eight miles east of Chesnaye. The abandoned Chesnaye Radar Site was near the northern extremity of the ridge.

On June 12 and 13 a few streams and lakes were still frozen at the southern extremity of the survey route in open tundra situations. Ten inches of snow fell on the evening of June 12 with temperatures remaining unseasonably cool through June 16.

Following is an annotated check-list of the 73 species of birds observed along the route. Most birds appeared territorial and few migrants were noted.

ARCTIC LOON *Gavia arctica*. Seven were observed on small ponds in open tundra, with no records from forested areas. One pair was heard calling from a small lake on the evening of June 11 near the Chesnaye Radar Site.

WHISTLING SWAN *Olor columbianus*. On the afternoon of June 11 a single bird was seen flying from one small pond to another near the Chesnaye Radar Site. No nest was located, but nesting could have occurred. On July 22, two adults were seen on Fletcher Lake three miles from the original observation, which indicates a pair summered in the area.

CANADA GOOSE *Branta canadensis*. Commonly observed or heard throughout the survey. One hundred and fifty-nine geese were recorded, with the greatest densities occurring in low coniferous forest. Densities were also high on sandy ridges and open tundra. Individuals observed on open tundra were probably territorial

birds from surrounding forested areas. One flooded nest and another with four eggs were recorded in low coniferous situations.

MALLARD *Anas platyrhynchos*. Most observations were from the Warkworth Lake area where 24 individuals were observed. Eight additional birds were observed north of Fletcher Lake on June 13.

BLACK DUCK *Anas rubripes*. The most commonly encountered dabbling duck. It was most often observed in coniferous forest.

PINTAIL *Anas acuta*. Common in all areas with highest densities occurring in open tundra situations. Two nests were located and one pair was observed copulating June 15 in Warkworth Creek, five miles south of Warkworth Lake.

GREEN - WINGED TEAL *Anas carolinensis*. Encountered principally in ponds near sandy ridges. On June 11, 12 were seen near Chesnaye Radar Site. Also seen regularly on the open tundra.

SHOVELER *Spatula clypeata*. One pair was observed in open tundra on June 12.

AMERICAN WIDGEON *Mareca americana*. Uncommon in wooded areas and absent elsewhere. The main concentration area was on Warkworth Creek near Warkworth Lake.

GREATER SCAUP *Aythya marila*. A few were seen in all areas, but they were much more numerous on Warkworth Creek and Warkworth Lake.

LESSER SCAUP *Aythya affinis*. Nine were recorded on Warkworth Lake on June 16.

COMMON GOLDENEYE *Bucephala clangula*. Some were seen along Warkworth Creek where the drainage system is bordered by coniferous forests. One female was observed June 12 on Fletcher Lake.

BUFFLEHEAD *Bucephala albeola*. A male and two females were recorded on Warkworth Creek, three miles south of Warkworth Lake on June 16. Apparently these observations represent the first Churchill area records.

OLDSQUAW *Clangula hyemalis*. Highest densities occurred in open

tundra especially in the Pert and Fletcher lake areas where 22 adults were observed. It was less common in coniferous forest.

WHITE-WINGED SCOTER *Melanitta deglandi*. Two pairs were observed on a small lake near the Chesnaye Radar Site on June 11.

COMMON SCOTER *Oidemia nigra*. Ten individuals (four pairs, two singles) were seen in the vicinity of the Chesnaye Radar Site and the open tundra east of the site.

RED - BREASTED MERGANSER *Mergus serrator*. We observed one pair in the open tundra east of Chesnaye Radar Site and four additional birds near Warkworth Lake.

GOSHAWK *Accipiter gentilis*. A lone hunting bird was observed flying along Warkworth Creek, four miles south of Warkworth Lake on June 15.

ROUGH - LEGGED HAWK *Buteo lagopus*. We encountered this species regularly over the open tundra, but rarely elsewhere. Six individuals including one melanistic form were observed June 12 and 13 over the tundra.

MARSH HAWK *Circus cyaneus*. Eight were seen during the survey with four of these occurring over the open tundra.

OSPREY *Pandion haliaetus*. Two adult birds were seen perched and flying along the western edge of Warkworth Lake June 16.

SPARROW HAWK *Falco sparverius*. A single male was observed June 11 at the Chesnaye Radar Site.

SPRUCE GROUSE *Canachites canadensis*. On June 16 a male was recorded three miles south of Warkworth Lake.

WILLOW PTARMIGAN *Lagopus lagopus*. Most common on sandy ridges and open tundra. Twenty-three were seen with 22 located in these two areas. A nest with 10 eggs was located June 11 near Chesnaye Radar Site.

SEMIPALMATED PLOVER *Charadrius semipalmatus*. Common where exposed gravel occurred. A nest with four eggs was examined in an abandoned gravel pit near Chesnaye Radar Site on June 11. Three other pairs

were on territory in the same area.

AMERICAN GOLDEN PLOVER *Pluvialis dominica*. Observed only in open tundra situations east and northeast of the Chesnaye Radar Site.

COMMON SNIPE *Capella gallinago*. Abundant in coniferous forested areas, but not recorded on the tundra. Thirty-three were seen or heard on the survey.

WHIMBREL *Numenius phaeopus*. Occurred only in open and mixed tundra situations. One pair was observed pursuing jaegers on June 12, so nesting probably was occurring.

LESSER YELLOWLEGS *Totanus flavipes*. Few were seen in open tundra, but they were abundant in coniferous forest interspersed with swamps.

LEAST SANDPIPER *Erolia minutilla*. Absent in all areas except open tundra where four were seen and mixed tundra where a single pair was observed.

DUNLIN *Erolia alpina*. Most often encountered in open tundra. The species was not seen in wooded areas.

SHORT-BILLED DOWITCHER *Limnodromus griseus*. A single bird was seen in open tundra but the major concentration was in wooded areas, interspersed with meadows.

STILT SANDPIPER *Micropalama himantopus*. Most abundant in open tundra habitat, although it was observed in all habitat types.

SEMIPALMATED SANDPIPER *Ereunetes pusillus*. Seven were recorded near the Chesnaye Radar Site June 11.

HUDSONIAN GODWIT *Limosa haemastica*. Three pairs were seen in open and mixed tundra habitats. All observations were made in areas where few trees occurred.

NORTHERN PHALAROPE *Lobipes lobatus*. Observed regularly on ponds in all areas, but most abundant in open tundra.

PARASITIC JAEGER *Stercorarius parasiticus*. Four were observed hunting over open tundra June 12 and 13.

LONG-TAILED JAEGER *Stercorarius longicaudis*. Two were seen

June 13 in open tundra and three were seen flying northwest over mixed tundra June 14.

HERRING GULL *Larus argentatus*. One nest with three eggs was located near Fletcher Lake. Commonly seen around lakes in open tundra and in the area around Warkworth Lake.

BONAPARTE'S GULL *Larus philadelphia*. Common near the sandy ridge. Other observations consisted of individuals flying over open tundra and another diving at the observers in a mixed tundra situation.

ARCTIC TERN *Sterna paradisaea*. Commonly seen over open tundra and coniferous habitat that was interspersed with small lakes and swamps.

SHORT-EARED OWL *Asio flammeus*. Four were observed near Chesnaye Radar Site June 11. These were the only individuals observed during the survey.

YELLOW-SHAFTED FLICKER *Colaptes auratus*. A dead bird was found at the Chesnaye Radar Site June 11, and another individual was seen three miles south of Warkworth Lake June 16.

OLIVE-SIDED FLYCATCHER *Nuttallornis borealis*. A singing individual was observed June 15, four miles south of Warkworth Lake.

HORNED LARK *Eremophila alpestris*. Only observed June 11 on the sandy ridge near the Chesnaye Radar Site.

TREE SWALLOW *Iridoprocne bicolor*. Three were recorded. All appeared to be migrating.

GRAY JAY *Perisoreus canadensis*. Confined to coniferous forests. Most were associated with short coniferous forest.

COMMON RAVEN *Corvus corax*. Regularly seen in all habitats.

ROBIN *Turdus migratorius*. Seven were observed on a sandy ridge near the Chesnaye Radar Site June 11. No observations occurred in other zones.

GRAY-CHEEKED THRUSH *Hylocichla minima*. Abundant in coniferous forest. Twenty-six birds were seen on the survey with 21 sightings in short and tall coniferous forest.

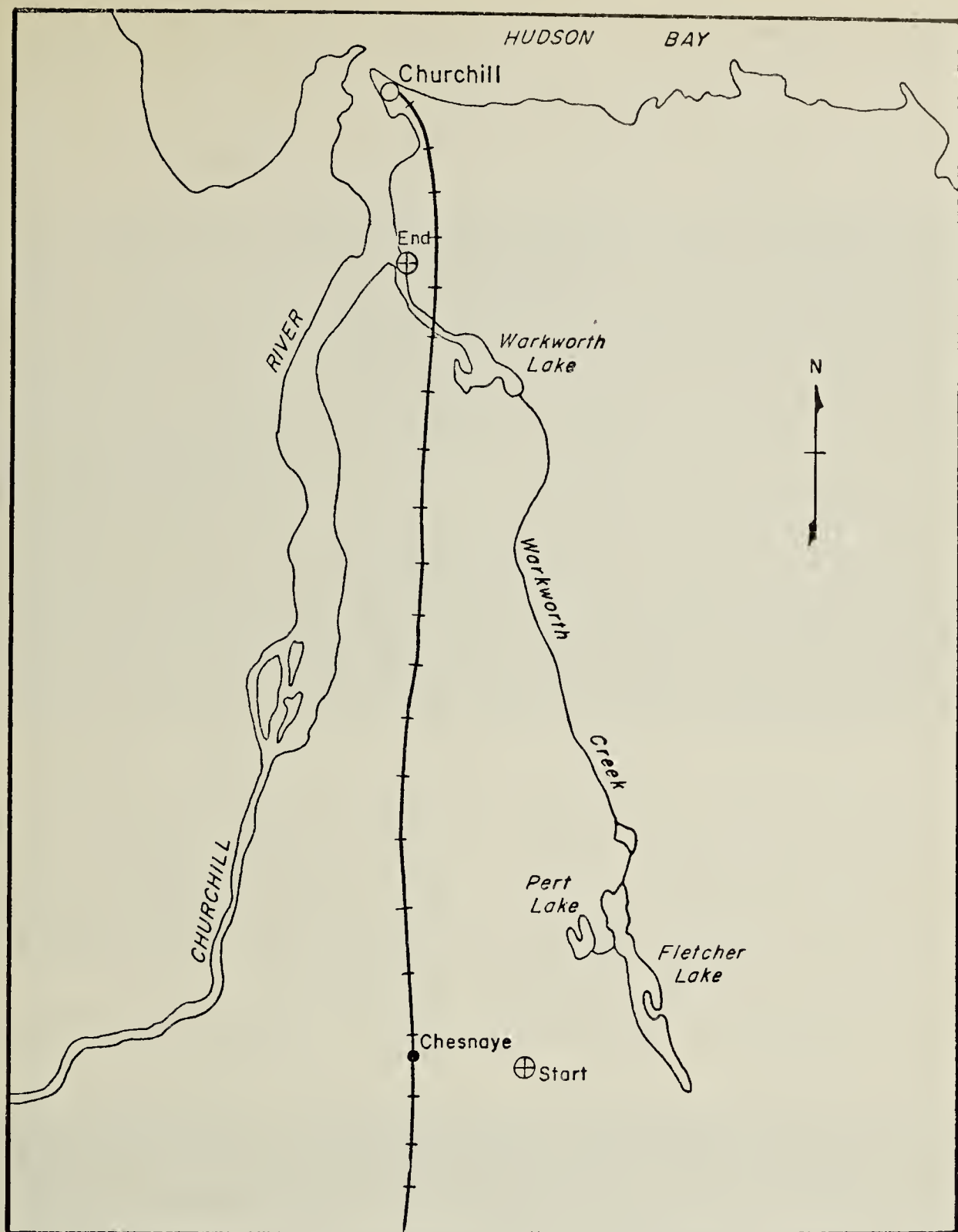


Figure 1. Map of Warkworth Creek area, northern Manitoba.

RUBY-CROWNED KINGLET *Regulus calendula*. Three individuals were observed along Warkworth Creek in both short and tall coniferous forest.

BOHEMIAN WAXWING *Bombus garrulus*. Common in both short and tall coniferous forest. Twenty-two individuals were seen in these habitats.

YELLOW WARBLER *Dendroica petechia*. Uncommon in the willows along Warkworth Creek near Warkworth Lake; four individuals were seen.

MYRTLE WARBLER *Dendroica coronata*. Sightings were in association with coniferous forest habitats. Two were seen near Chesnaye Radar Site and two additional birds were

observed in tall coniferous along Warkworth Creek.

BLACKPOLL WARBLER *Dendroica striata*. This species was the warbler most often noted during the survey, with regular sightings in coniferous forests. Twelve individual birds were seen or heard.

YELLOWTHROAT *Geothlypis trichas*. A male was heard in a willow swamp June 14 approximately 20 miles south-southeast of Warkworth Lake.

WILSON'S WARBLER *Wilsonia pusilla*. On June 14 a single male was observed in mixed tundra among thick willows approximately 22 miles southeast of Warkworth Lake.

RUSTY BLACKBIRD *Euphagus carolinus*. Common in all situations except open and mixed tundra.

PINE GROSBEAK *Pinicola enucleator*. Regularly encountered in both short and tall coniferous forests.

HOARY REDPOLL *Acanthis hornemanni*. Six individuals were observed near Chesnaye Radar Site and two were seen in small willows in open tundra east of the radar site.

COMMON REDPOLL *Acanthis flammea*. Observed in all areas with the major concentration occurring around the sandy ridge. One pair was observed carrying nest material in open tundra June 12.

WHITE-WINGED CROSSBILL *Loxia leucoptera*. A courting pair was observed two miles south of Warkworth Lake June 16. This record represents one of the few sightings of this species in the Churchill area.

SAVANNAH SPARROW *Passerculus sandwichensis*. Common to abundant along the entire survey route. They appeared more common among willows on open tundra.

SLATE-COLORED JUNCO *Junco hyemalis*. We observed the species in both short and tall coniferous forest near Warkworth Lake.

TREE SPARROW *Spizella arborea*. The most abundant sparrow observed on the survey. A total of 132 individuals were observed, but the species was rare in tall coniferous forest.

HARRIS' SPARROW *Zonotrichia querula*. Common in all areas except tall coniferous forest. Abundant in short coniferous and mixed tundra areas.

WHITE-CROWNED SPARROW *Zonotrichia leucophrys*. Abundant on sandy ridges but less common in other areas especially in tall coniferous habitat.

WHITE-THROATED SPARROW *Zonotrichia albicollis*. A single singing individual was observed at Chesnaye Radar Site June 11.

FOX SPARROW *Passerella iliaca*. Common on sandy ridges around the Chesnaye Radar Site and surrounding creek bottoms in open tundra.

LINCOLN'S SPARROW *Melospiza lincolnii*. Three individuals were observed in forested areas along the survey route.

LAPLAND LONGSPUR *Calcarius lapponicus*. Common in open tundra habitat, and only occasionally observed on the sandy ridge and in mixed tundra.

SMITH'S LONGSPUR *Calcarius pictus*. Eight were seen on the sandy ridge near the Chesnaye Radar Site. No other individuals of this species were observed.

SNOW BUNTING *Plectrophenax nivalis*. A single bird was observed near Fletcher Lake June 12.

REQUEST FOR INFORMATION RE: BALD EAGLES

A study is being conducted to determine the migration routes of Bald Eagles breeding in Minnesota and Bald Eagles wintering in South Dakota. Both immature and mature birds have been color-marked yellow, green, turquoise, or in combination. Information desired: color and portion of wing or tail that is marked, date of sighting, location, and activity of the bird. Exact time of sighting and name of person making the observation is also necessary. Send information to: **Thomas C. Dunstan, Dept. of Biology, Univ. of South Dakota, Vermillion, South Dakota 57069.**

INTERESTING BEHAVIOUR OF A GREAT BLUE HERON

by **R. John Gibson**, 326 Mandeville St., Winnipeg 12, Manitoba



In the spring of 1969, I was making underwater observations as part of a walleye spawning study in a small stream in southeast Manitoba. I was swimming downstream, at the surface, wearing a black neoprene rubber "wet" suit, including the headpiece,

Photos by R. J. Gibson

when I saw a Great Blue Heron on the bank, about 25 yards away. I had with me a 35 mm Nikonos underwater camera, and knowing how wary these birds usually are, I thought this worth a picture. I carefully swam down to the bird, taking pictures. Some of these are shown in the accompanying illustrations. The slight blurs on them





were caused by drops of water on the lens. Having approached to within a few feet, I thought the heron would certainly fly, so with camera ready to get the last picture, I swam right underneath the bird, hoping to get a shot of it taking off. Still it did not fly, although obviously concerned. It gave me some very haughty looks, with beak up in the air; it crouched down, as though to fly; it opened and shut its beak; and as it looked straight down at me I hoped it did not think I was a kind of edible fish! I had plenty of time to try different lens openings, and shutter speeds, and finally I used up the remaining film. I swam over to the other bank and climbed out. The heron still did not fly, so I thought it might be trapped or wounded. However, I called to a friend, and as he approached, the heron took off, obviously uninjured.

It is interesting that this Great Blue Heron did not fly from an unknown large animal, and a possible predator, and yet flew from a recognized man. Although this was a single observation, it is worth speculating that other herons may behave the

same way, and if so, could this specific response to man have evolved as an instinct, or would it be learned? It seems unlikely there has been enough time for the former, although some birds act instinctively to some predators, such as ducks to foxes or hawks. If learned, would it be from experience, or from other individuals of the same species? Both could be correct. The latter explanation has been shown to be true for some birds. For example, Konrad Lorenz (*King Solomon's Ring*, 1952), described how jackdaws and crows can communicate to others of the species that individual people might be dangerous to them, so it is conceivable that herons, when gathered together in a heronry, on seeing a man, could communicate to each other the potential danger of man. Perhaps this unusual way of observing a heron will persuade other bird watchers to don diving suits!

Dr. Gibson, a fisheries biologist with the Manitoba Dept. of Mines & Nat. Resources at the time of submission of this paper, is now with the Dept. of Biology, University of Waterloo, Waterloo, Ontario.



Photos by R. J. Gibson

Great Blue Heron

September, 1969

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FIRST VIOLET-GREEN SWALLOW NEST IN SASKATCHEWAN

by **C. Stuart Houston**, 863 University Drive, Saskatoon.

One of many highlights of the S.N.H.S. summer meeting at Val Marie was the sighting of the Violet-green Swallows. A cooperative effort led quite rapidly to the discovery of the first Saskatchewan nest.

On June 14, 1969, no sooner had the cavalcade of cars stopped at the top of the valley near Prairie Dog Butte, when George Ledingham sang out: "Violet-green Swallows!" This species had only the previous year been added to the hypothetical list of Saskatchewan birds, after a sight record by Bill Eddie, Fred W. Lahrman and Fred G. Bard in Regina on April 12, 1968 (*Blue Jay* 26:119, Sept. 1968). Previously there had been one specimen from Manitoba in 1945 but none from Saskatchewan. Some time before the Regina record, J. David Chandler mentioned that he was sure he had seen Violet-greens in the Val Marie

area and wondered whether they might even be nesting there.

Members were very excited as they watched three or four pairs circling the top of the cliff, the white across the base of their tails readily visible under perfect conditions. Some of the juniors of exploring bent had already made their way out onto the top of the butte as soon as the cars stopped. Though not aware of the species of swallow they were watching, Donald Houston and Keith Hobman were soon convinced that several pairs must be nesting on the cliff, since the swallows swooped concernedly very close to them.

I went down to the bottom of the cliff while Arnold Nijssen and David Riome got the eagle banding equipment from my car and pounded the big stake at the top of the butte, attaching 150 feet of rope. After



Photo by Connie Pratt

Prairie Dog Butte, June 14, 1969, above the nests of the Violet-green Swallows.



Photo by C. S. Houston

Cliff below Prairie Dog Butte showing entrance to Violet-green Swallow nest site.

sighting several likely holes with tell-tale "whitewash", I climbed up the rope. Just above me, I saw a Violet-green seize a piece of floating down from the air and enter a crevice on the sheer face of the clay cliff about eight or ten feet from the top. It contained a completed nest, made of grass and lined with white feathers but unfortunately it contained no eggs as yet. The swallow entered the nest twice while it was under observation at a distance.

Throughout much of their range, Violet-green Swallows nest in holes and crevices on cliffs, often far from human habitation. Less commonly they nest in hollow trees or under the eaves of buildings. Their nearest regular nesting sites are in the Rocky Mountains of Alberta and Montana, the Waterton Lakes, and the river valleys of southeastern Montana; they are the most numerous swallow in the Black Hills of South Dakota. They have also nested in nest boxes at Hinton and Penfold in Alberta.

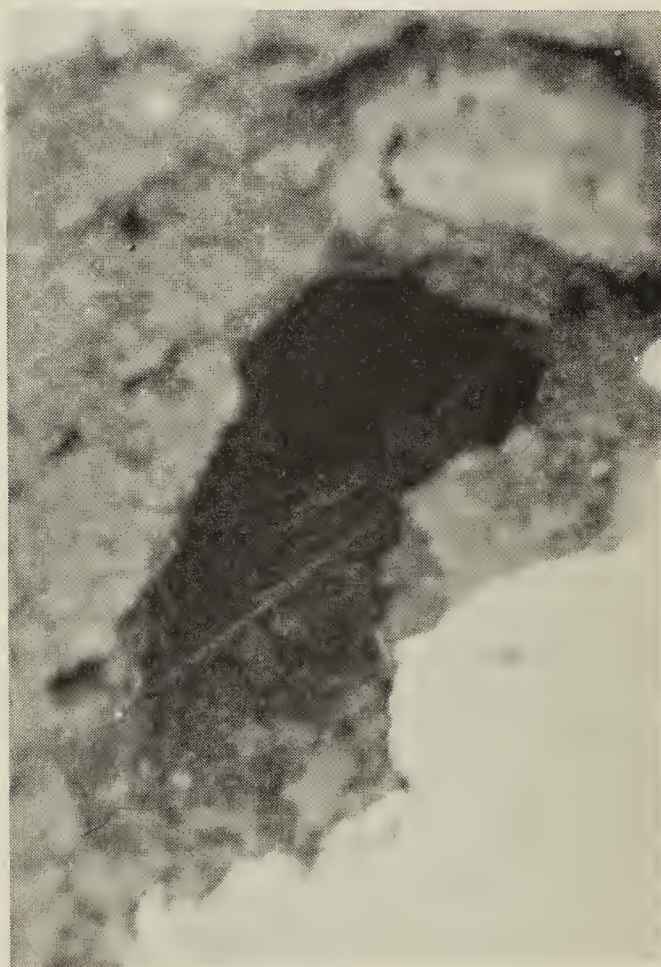


Photo by C. S. Houston

Violet-green Swallow nest in Prairie Dog Butte, June 14, 1969.

A SABINE'S GULL IN SOUTHERN SASKATCHEWAN

by Herbert W. R. Copland

Manitoba Museum of Man & Nature, Winnipeg.

Madge Lake in the Duck Mountain Provincial Park in Saskatchewan was calm the evening of Friday, June 20, 1969, with only the slightest trace of a northwest wind and a cloudy sky. The writer was located at a cottage at Ministik beach about 400 yards east of the marina and approximately 50 yards from the lakeshore. Earlier in the day gulls had been noticed on the water feeding near shore and also resting on a tiny island or boulder strewn shoal judged to be 300 yards from the lakeshore.

With leisure time available about 7 p.m. C.S.T., a walk was taken to the lake to look at the gulls. Five immature Bonaparte's Gulls were sitting feeding on the water close to shore and out over the lake two adult Bonaparte's, three Franklin's, and two Ring-billed gulls were noted flying. In the course of looking at and identifying the flying gulls, I suddenly noticed one which had a distinctly different plumage. It was black-headed, a black triangular patch on the upper side of the outer primaries tapered acutely to the wing wrist, and adjacent to this was a white triangular area, the base of which extended across the rear edge of the wing. The balance of the wing and also the upper back were a pearly gray color much like the Franklin's Gull. The tail, lower back, and underparts were white. Color details of the bill and feet were not discernible although they appeared dark. Without a reference guide immediately at hand, I made a hasty retreat to the cottage to consult Peterson's field guide and the bird was tentatively identified as Sabine's Gull (*Xema sabini*), a bird that nests in the Arctic. Returning once again to the lakeshore with my wife, I saw the gull flying about and occasionally diving to the water in pursuit of food. After a short time it landed and perched on

a boulder on the shoal.

Since I realized that this was a rare gull for the area, the question arose of having another bird-watcher confirm the identification. With this in mind I immediately left for the pavilion at Ministik beach with the hope that perhaps a park naturalist was stationed there. Near the telephone booth beside the parking area a park employee was approached and it was learned that there was no park naturalist. However, he pointed to two persons 50 feet away and said they were from the Museum at Regina. I strolled over and met Fred Lahrman and Lorne Scott. What a stroke of good luck to find two members of the staff of the Saskatchewan Museum of Natural History to confirm or reject an identity of a rare species!

When I returned with Fred and Lorne to the point on the lakeshore from which the gull was first noted, we thought it was still resting on the boulder strewn shoal. While Fred moved westward a short distance along the lakeshore, Lorne and I kept watch. After a short time, the bird we thought was the Sabine's arose to fly over the lake again searching for food. Fred agreed that this was indeed a Sabine's Gull. Lorne and I could now add this bird as a new species to our life lists.

The following day the writer left Madge Lake about 3:00 a.m. C.S.T. to do a breeding bird survey and didn't return until late in the morning. The Sabine's Gull was looked for in the early afternoon but was not sighted again.

Godfrey (1966) gives the breeding range of Sabine's Gull in Canada as being "on the arctic coast and islands", and also states: "Migration is mainly along the Pacific coast . . . Rare migrants in the Canadian interior but recorded in Alberta, Saskatchewan, Manitoba, Ontario and Quebec."

Earlier records of this gull in Saskatchewan were of three seen on June 9, 1914, on Sandy Lake, Churchill River (Buchanan, 1920:224), and 11 found on June 11, 1960 resting on open water at the mouth of Black Bay, Lake Athabasca (Nero, 1963:25), two specimens of which were taken. Taverner and Sutton (1934:25) considered it a rare transient at Churchill on the Arctic coast of Manitoba. Although not noted in 1930, four specimens (three females and one male) were taken in June 1931 within six miles of Churchill and adult specimens were taken in June 1933. Soper observed a single gull of this species in winter plumage on October 4, 1945 at Lake Audy in Riding Mountain National Park (1953:25) in Mani-

toba. Lake Audy is approximately 85 miles southeast of Madge Lake. These lakes are similarly situated, being located on relatively small boreal escarpments in the southern sections of the respective provinces.

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FURTHER COMMENTS ON PRAIRIE RECORDS OF THE KNOT

by **Martin K. McNicholl**, Zoology Department, University of Manitoba, Winnipeg

In a recent paper (McNicholl, 1969 a), I attempted to gather together records of the Knot (*Calidris canutus*) in the prairie provinces of Canada. Published additional records are now available for West Shoal Lake, Manitoba (McNicholl, 1969 b), Cold Lake, Alberta (Blokpoel, 1969), and Frank Lake and Calgary, Alberta (Smith and Wershler, 1969). In addition, I have recently been informed that a specimen collected by Sam Waller at The Pas on May 26, 1947 is in Mr. Waller's scientific collection in The Little Northern Museum (pers. corres. June and July, 1969). Also, "seven or eight" were seen at the University of Manitoba Field Station at Delta at about 9:00 a.m. on May 22, 1969 by Harold R. Bauer. Two were still present at 12:45 p.m. when the writer and Dr. Roger M. Evans visited the site with Bauer.

In my discussion on the migration routes of the Knot across the prairies, I proposed a regular flight through the western and central portions of

the Alberta prairies in addition to the flight east of Manitoba proposed by Cooke (1910). Blokpoel (*op. cit.*) does not feel that this idea of a division of the interior flight-path into *two* flights can be supported. He feels that his record of a single Knot at Cold Lake, June 16, 1968, refutes the proposal because it "helps to fill" the "considerable gap in locations [of Knots] on the prairie" which I had proposed. However, it should be noted that, as Blokpoel states, Cold Lake is not in the prairies, but "*within the Boreal Forest.*" Blokpoel suggests that the Alberta flight does not proceed over the southwestern and south-central Alberta prairie, but rather over the eastern part of the province, because the map in Salt and Wilk (1966) clearly charts the migration of the Knot over the eastern part of the province. However, it must be pointed out that the map in Salt and Wilk is a summary map, based on the sites shown in Figure 2, p. 32 of my paper (196 a). These locations are clearly

in the south-central portion of the province, near the western limits of the prairies. Furthermore, Salt and Wilk (*op. cit.*) state "it [the Knot] apparently passes over the southern prairies without stopping" because of the scarcity of records there. Blokpoel feels that the lack of records for southwestern Saskatchewan can be explained by the relative lack of reporting bird-watchers in that area. I agree that this could explain the total lack of records there, but if the Knot regularly used the area in even small numbers, one would expect that at least a few records would be available from the capable observers that are and have been in the area. The proposed additional western flight is based on *numbers* and *regularity*, not on actual locations of a few scattered records. If the Knot was a regular migrant across the prairie in any abundance, one would expect more records from such heavily observed areas as Moose Jaw, Regina, Delta, and Winnipeg. Moreover, although Knots have been "observed in the area around Saskatoon for several successive years" as Blokpoel (*op. cit.*) states, these have been in *small numbers* (see table 2, p. 31, McNicholl, 1969a). On this basis I must still follow the hypothesis that the interior North American flight of the Knot follows two main pathways around the prairies, i.e., one through south-central Alberta, the other east of Manitoba. The scattered observations in Saskatchewan and Manitoba appear to represent strays from the main route.

Blokpoel (*op. cit.*) attributes the lack of fall observations in Saskatchewan to their less conspicuous coloring and smaller flocks (at least, in part). However, it should be pointed out that the most important distinguishing features of the Knot are not plumage characteristics, but the chunky body and short bill (see Peterson, 1947, or any other bird guide), and that the Knot is less difficult to distinguish in the fall than are many other small shorebirds, many of which are regularly identified. As noted in

my paper, most authorities indicate that the fall migration is farther east than the spring migration, and I do not feel that there is any evidence to refute that view, except to point out their regularity in fall through Alberta. Even there the flights are thought to be smaller in the fall (Salt and Wilk, *op. cit.*).

Finally, I must join with Blokpoel in re-emphasizing the need for more information in determining the Knot's migration route in detail. This is not only true of the prairie region, where we have enough records to at least provide discussion, but even more true of the boreal forest areas, where we have very few records. Blokpoel's record at Cold Lake, Waller's record at The Pas, the Lake Athabasca records (Nero, 1963; McNicholl, 1969a), and the Lake St. Martin record (Shortt and Waller, 1937) should help to fill in this gap in our knowledge, but at the moment may open up more questions than they answer. For example, as Waller (pers. corres., July 15, 1969) has pointed out, the June 13, 1935 date for the Lake St. Martin record seems very late for spring migration. On the other hand, it is early for fall migration. Perhaps it was a non-breeding bird. I would urge readers with other records of the Knot in the prairie provinces either to publish them or send them to the writer.

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SIGHTING OF A PROTHONOTARY WARBLER IN REGINA

by **D. G. Bobbitt**, 2834 23rd Avenue, Regina

On May 17, 1969, Fr. H. B. Bedard, S.J., and I were patrolling the northwest corner of the Legislative Grounds for the annual Regina May bird census when we sighted a male Prothonotary Warbler (*Protonotaria citrea*) in full spring plumage. At approximately 7:30 a.m. when we were checking a Green Ash for a suspected Baltimore Oriole, I noticed a small, warbler-sized bird preening itself on a branch. It had a very bright yellow-orange head and chest, and what seemed to be a completely greyish body. When I pointed it out to Fr. Bedard, he immediately identified it as a Prothonotary, a bird with which he was familiar from the eastern United States. A check with Peterson's *Field guide to the birds* and the *Birds of North America* by Robbins, Bruun, Zim and Singer showed the three field marks we had noticed—the golden head and chest, dark greyish body and wings without wing bars, and white outer edges of the tail—which together indicated the Prothonotary—a bird that couldn't be mistaken for any other.

The Warbler soon flew from the tree to the edge of the lake, giving us a better view of it. It made several trips from tree to lake, where it moved around at the water's edge. As Fr. Bedard went to get Dr. Jim Jowsey and the rest of our May Day count group, I continued observing the Prothonotary which darted across a corner of the lake to some waterside slabs of concrete by the Albert Street Bridge, after which it winged back to our side of the lake, landing in a tree. Soon after this I lost it.

That evening at six o'clock I resighted the Prothonotary at the southeast corner of the lake, across the road from the Diefenbaker Homestead. Again I found the bird in trees near the water's edge, and also I verified the three main field marks.

How the "Golden Swamp Warbler", as it is sometimes called, came to be in Regina poses an interesting question. The normal range of the species lies far to the south and east, the northern limits of its usual range being southern Minnesota and Michigan. Eastern Nebraska would seem to be the farthest western extreme. The only spots in Canada where it has been found are Ontario, where it breeds sparingly in the extreme southern sections, and New Brunswick and Nova Scotia, where it is recorded as being casual. As far as I know there are no previous records for Saskatchewan.

There was no noticeable wave of warblers that day nor were there any especially strong winds from the south the previous night. How this bird came to be here seems therefore hard to explain.

SONG SPARROWS HAWKING MAYFLIES

by **Al Grass**, 5666 Rumble St., Burnaby 1, B.C.

On June 12, 1969, at E. C. Manning Park, B.C., three Song Sparrows (*Melospiza melodia*) were observed hawking Mayflies (*Ephemeroptera*) in a manner similar to flycatchers and waxwings. Each bird waited on the limb of a tree about 18 to 24 inches above the water's surface until an insect came within close proximity. Then the bird quickly darted out, snatching the mayfly from mid-air. All observations were made using 7 x 35 binoculars at a distance of about 20 feet. It could be clearly seen that the birds were accurate in their hunting, since at no time during the 15-minute observation period were they observed to miss a "strike".

I could find no specific reference in the literature to Song Sparrows hawking mayflies.

REVIEW OF SASKATOON 1968 BIRD OBSERVATIONS

by **J. B. Gollop**, Canadian Wildlife Service, Saskatoon

This summary of the more interesting records from Volume 3 of the *Saskatoon Bird Review* covers the period January 1 through November 30, 1968. The district included is a 3,600-square-mile block within approximately a 35-mile radius of Saskatoon. This paper is based on the following statistics:

Issue No.	1968				Totals		
	1	2	3	4	1968	1967	1966
Period	Jan. 1-Mar. 15	Mar. 16-May 31	March-Sept.*	June 1-Nov. 30			
Contributors	32	73	41	52	97	102	101
Records	874	4,659	444	3,594	9,571	6,914	4,500±
Cards	238	2,305	302	1,149	3,994	4,010	2,644
Species	34	199	75	206	230	220	217

* Breeding records only.

With almost a 40 percent increase in records over 1967, we now have 160± pages of annotated list for three years covering most of the 268 species recorded in the area. While much more breeding and fall data are still needed, plans are to begin a preliminary publication on birds of the Saskatoon district after the 1969 season.

COOPERATORS

The 97 members of the Saskatoon Natural History Society who have continued to write and send records are to be commended for their persistence. Five teams contributed more than half of the total: Mr. and Mrs. G. Galloway, Dr. and Mrs. J. B. Gollop, Mr. and Mrs. J. D. Hogg, Dr. and Mrs. C. S. Houston and A. L. Nijssen. Nine parties accounted for another third by submitting 200-500 records each: Mrs. W. R. Early, R. E. Gehlert, Mrs. L. M. Hoyte, Mr. and Mrs. W. S. Richards, A. R. Smith, Miss L. P. Strom, F. L. Waite, Mr. and Mrs. J. A. Wedgwood and D. W. Whitfield. Florence and Bill Richards, Arnold Nijssen and Mrs. T. R. Smith have contributed much time sorting cards and compiling data. Again Canadian Wildlife Service Staff—Mrs. H. M. Burtonwood, Mrs. L. Brodland, Mrs. R. L. Learmonth, Mrs. D. A. Kendel and Mrs. G. MacKenzie

—have done the typing and mimeographing. To these and to the others who have helped in the production of the *Bird Review* in 1968, the editor extends his thanks.

BREEDING SEASON

There were 744 nests, broods and coveys reported in 1968 (Table 1), 23 more than last year. Seventy-three of the 127 species believed to breed were included compared to 67 last year. First breeding records were reported for three species. Hooded Merganser: a brood of seven almost full-grown young on Brightwater Reservoir on July 27 and probably on August 4. A Common Snipe was incubating four eggs on May 25 and 26. There was apparently an influx of this species since single winnowing birds were heard near Laura on June 8, Hanley on June 22, and a bird was seen near Burke Lake on June 15. The first nest of a Short-billed Marsh Wren for the district (near Laura) had three eggs on July 1 and six eggs on July 6.

Pied-billed Grebes and American Coots were obviously more common this year than in any of at least the previous five. There were 24 Red-tailed Hawk nests reported this year compared to 22 in 1967 and two in 1966. Burrowing Owls were apparently less common than usual. Male

Marsh Hawks in courting flights were recorded on March 27, April 12, 17 and 27. In view of R. W. Risebrough's report (Pollution, Wildlife and Science. *Canadian Field-Nat.* 82:241-243. 1968) that Marsh Hawks no longer reproduce in parts of Wisconsin, it would be well to keep records of courtship displays in Saskatchewan for the next few years. (Lack of reproduction is the result of a break in courtship activities: the males no longer perform their aerial displays, possibly as a result of DDT contamination.) To get some data on relative numbers of breeding species, we plan to conduct four breeding bird transects in the district in 1968.

MIGRATION

SPRING: White-phase Snow Geese were more common than in the previous two years, numbering 2,000+ at Goose Lake from April 27 through May 4. Blue-phase snows totalled 30 birds on four dates (April 7 - May 16) compared to none in 1966 and 1967. On the other hand, Rough-legged Hawks were less common (14 birds from March 30 through April 28) than in 1967. Three Whooping Cranes were studied in a field near Langham on April 26. Thrushes (except robins) and warblers (except Myrtle) were never common. Rusty Blackbirds were much less common than in the two previous springs.

Visible Migration. Birds flying west and northwest during the day were noted as follows: **March 27:** 93 crows (9 flocks). **April 1:** 19 crows; **6:** 3 buteos; **7:** 19 hawks; **11:** 11 hawks; **12:** 94 hawks, 24 crows; **13:** 42 hawks, 101 Sandhill Cranes (8 flocks); **29:** 125 Franklin's Gulls (8), some blackbirds; **30:** blackbirds. **May 1:** 112 Franklin's Gulls (15 flocks); **4:** 131 geese (5); **5:** 120 geese (3), 302 shorebirds (16), 29 Franklin's Gulls (3); **6:** 89 Franklin's Gulls (6), 3,115 longspurs (9); **8:** 10 Tree Swallows (4); **9:** 463 geese (7), 5 small falcons, blackbirds; **10:** 202 swallows (8), 18 Tree Swallows (4); **11:** 140 swans (10), 1,200 geese (23), 213 shorebirds (16), blackbirds; **12:** 101 geese (5), 402 shorebirds (16), blackbirds; **13:**

123 shorebirds (11), 28 plover (3); **17:** 108 Franklin's Gulls (32); **18:** 50 Franklin's Gulls (9); **31:** 50 Franklin's Gulls (4), 25 Tree Swallows (1).

FALL: In 1966 and 1967, 5,000± Whistling Swans could be seen on Goose Lake at one time; in 1968 the total apparently never exceeded 60. No White-fronted Geese were identified through the fall although they were fairly common in the two previous years. White geese, however, as in the spring, were more common than usual in the fall. No hawk migrations of more than seven birds in one day (October 20) were reported. Marsh Hawks remained in larger numbers than usual through November, including 5 males and 2 females on November 24 (also into December). Whooping Cranes were again reported on September 22 (2 circling with sandhills) and on October 13 and 14 (3 birds on the North Saskatchewan River). The first fall Bonaparte's Gulls were reported this year (1-5 birds in immature plumage from Oct. 5-26). Red-breasted Nuthatches were more common in August, September and October than in those months in 1966 or 1967.

Visible Migration. The following birds flying in a southeasterly direction were reported: **August 17:** 18 nighthawks; **29:** 6 Sandhill Cranes (1 flock). **September 5:** 75 geese (1 flock); **6:** 140 geese (1); **8:** 48 Sandhill Cranes (5); **21:** 81 geese (1), geese heard for 5± minutes, after dark; **22:** 100 geese (2), 60 sandhills (1); **29:** 32 sandhills (4). **October 3:** a few hawks; **13:** 2 buteos; **15:** thousands of ducks flying south; **mid-October:** many small flocks of geese southward; **20:** 7 buteos; **27:** 44 swans (1). **November 13:** 16 dark geese (1); **21:** 50 dark geese (1).

WINTER

Snowy Owls occurred in about the same numbers as in the spring and fall of 1966 and 1967. There were 60 Bohemian Waxwing observations in April, 1968, compared to 14,000 in April, 1967; fall numbers were similar for both years. No Evening Grosbeaks were reported in the spring of

1967; 110 were reported on nine March-April dates, 1968. Pine Grosbeaks and Snow Buntings were less common than in the fall of 1967. Redpolls were much less common in spring but noticeably more common in fall than in the previous two years.

OTHER RECORDS

Short-eared Owl. Records of this erratic species for the last 17-month period are:

- Nov. 3/67: 1 bird
- Nov. 4/67 - Apr. 21/68 (170 days): 0
- Apr. 22-29 (8 days): 17 birds, 5 dates
- Apr. 30 - Nov. 10 (195 days): 1 on May 25; 1 on Aug. 8
- Nov. 11/68 - Jan. 18/69 (69 days): 119 birds on 18 dates
- Jan. 19- Apr. 7 (79 days): 0
- Apr. 8/69: 2 birds

The first fall immigrants were reported on November 11 (4 birds) and 17 (2). Peak numbers of apparently different birds were 18 on November 24 and 21 on December 1. The largest concentrations were around Goose Lake on these same dates: 15 and 13, respectively. After January 4, the only records were for January 16 (1 bird) and 18 (2).

New Species: There are reports of two new species for the district but neither has adequate written supporting data: 1 Forster's Tern on May 25 at Pike Lake and 1 Audubon's Warbler near the city on May 12.

CFQC-TV: The tower was checked 12 times between August 14 and September 28. 63 dead birds of 18 species were found on 9 dates, the largest

TABLE 1. 1968 BREEDING RECORDS FOR THE SASKATOON DISTRICT

	Active Nests	Broods* Coveys		Active Nests	Broods* Coveys		Active Nests	Broods* Coveys
Horned Grebe	12	1	Am Coot	65	24	Cliff Swallow	5±	0
Eared Grebe	17	8	Killdeer	4	1	B-b Magpie	11	1
Pied-b Grebe	5	15	C Snipe	1	0	Common Crow	8	0
C Goose Big	1	0	L-b Curlew	1	0	House Wren	4	0
Mallard	5	24	Upland Plover	0	1	L-b Msh Wren	1	0
Gadwall	0	6	Spot Sandp	1	0	S-b Msh Wren	1	0
Pintail	3	9	Willet	1	1	Catbird	1	0
Bl-wgd. Teal	2	3	Am Avocet	10	1	Br Thrasher	1	1
Am Widgeon	0	10	Wils Phalar	2	1	Robin	5	4
Shoveler	0	7	Frank Gull	200±	0	Mt Bluebird	0	1
Redhead	0	1	Black Tern	8	0	Cedar Waxwing	3	1
Canvasback	3	23	Rock Dove	4	0	Loghd Shrike	1	2
Lesser Scaup	0	1	Mourning Dove	2	0	Starling	1	0
Ruddy Duck	0	4	Gr H Owl	36	0	Yellow Wrblr	3	3
Hooded Merg	0	1	Burrow Owl	4	0	House Sparrow	8	4
Sh-sh Hawk	1	0	Long-ear Owl	5	0	W Meadowlark	3	0
Cooper Hawk	3	0	C Nighthawk	1	0	Y-h Blkbird	6	4
R-tail Hawk	24	0	Y-sh Flicker	1	0	R-w Blkbird	17	0
Swains Hawk	6	0	E Kingbird	6	0	Balt Oriole	1	0
Marsh Hawk	2	0	W Kingbird	1	0	Brwr Blkbird	7	0
Spar Hawk	3	1	Horned Lark	1	1	Am Goldfinch	0	1
Ruffed Grouse	0	1	Tree Swallow	3	0	Lark Bunting	1	0
Sh-t Grouse	1	0	Bank Swallow	25±	0	Chip Sparrow	2	3
Gray Part	0	4	Barn Swallow	7	0	Cl-col Sparrow	0	2
Sora	1	0						

Totals: 568 occupied nests; 176 broods and coveys; 73 species.

*Flightless young out of nest or flying young being fed by adult.

number being 39 on September 2. Red-breasted Nuthatches were found for the first time.

Banding: R. E. Gehlert, F. L. Waite and D. W. Whitfield banded 119 Sparrow Hawks, mostly in spring and fall migration. C. S. Houston banded 73 young Great Horned Owls, as well as many other species, and D. W. Whitfield banded 24 young Red-tailed Hawks.

Large Numbers. The following are considered to be large numbers or flocks for the periods seen: 184 Western Grebes on Blackstrap Lake on October 5; 4,000± Whistling Swans on April 29; 1,400± White-fronted Geese on April 27 and 2,700± white geese (probably Snow) on September 29, all on Goose Lake; 350 males and some female Canvasback on Radisson Lake on May 20 and June 2; 2,300± Scaup (probably Lesser) on Blackstrap on November 10 and 125+ Ruddy Ducks there on September 7; 350± Golden Plover in a field on the Campus on May 15; 10 Spotted Sandpipers on Brightwater Lake on August 1 and 30 Willets there on July 27; 15,000± small sandpipers on Burke Lake on June 1; 40 Marbled Godwits near Bradwell on June 29; 70± Avocets at Goose Lake on April 12; 2,000+ Northern Phalaropes on Blackstrap, May 25; 100± Common Terns at the city dam on July 29 and 1,000± Black Terns over Brightwater Lake on August 1 (neither species breeds at these locations); 15 Short-eared Owls on November 24 within one mile of Goose Lake! a flock of 15+ Western Kingbirds and one-day count of 32 on July 21; 20 Say's Phoebes on May 12; 24 Black-capped Chickadees in a flock near Dalmeny on November 16; several thousand robins per day in the city from April 20 through 24; a flock of 500± Rusty Blackbirds on October 6; a flock of 55 American Goldfinches on August 15, and a flock of 4,000± Lapland Longspurs on May 4.

Stragglers and Rarities: Twenty-eight species (singles unless otherwise noted) were reported on only

one or two dates in 1968 (to November 30). Red-necked Grebe (2 on May 25, June 26); Black-crowned Night Heron (May 8, 5 on Aug. 1); Black Duck (September 13, October 19); White-winged Scoter (3 on May 25); Broad-winged Hawk (May 6); Peregrine Falcon (May 28, September 22); Ruddy Turnstone (30 on May 25, 1 on June 2); Knot (3 on May 25); Buff-breasted Sandpiper (11 on May 24, 137 on May 25); Hudsonian Godwit (3 April 27 - 29, 2 on May 17); Black-billed Cuckoo (June 9 and 25); Red-shafted Flicker (June 28); Red-headed Woodpecker (May 24 and 25); Black-backed Three-toed Woodpecker (November 25); Raven (March 24); White-breasted Nuthatch (September 4); Solitary Vireo (August 18, September 16); Philadelphia Vireo (2 on August 19; August 21); Yellow-breasted Chat (June 8, September 6); Canada Warbler (May 29); Western Tanager (September 11); Black-headed Grosbeak (September 2 and 15); Red Crossbill (June 23, 8 on June 26); Sharp-tailed Sparrow (May 6); Lark Sparrow (2 on May 19, 4 on May 25); Oregon Junco (September 26); Swamp Sparrow (May 6), and McCown's Longspur (5 on May 25, 2 on June 8).

In the same category were two Mockingbirds that spent the period September 30 - December 3 around 309 Lake Crescent. At least one was seen weekly or more often through October and almost daily through November.

CARDINAL INFORMATION WANTED

Anyone who has records of the Cardinal in the prairie provinces or states is requested to correspond with Martin McNicholl at the Zoology Department, University of Manitoba, Winnipeg. Any information on location, date(s) seen, habitat, details of observation and behaviour of birds seen is welcome. Special note should be made of regularity at feeding stations for winter observations. Previously unpublished records are particularly desirable.

SIGHT RECORD OF DIPPER NEAR EASTEND, SASKATCHEWAN

by **Elizabeth Cruickshank**, 2329 Athol Street, Regina

Sight records of the Dipper, *Cinclus mexicanus*, in Saskatchewan were reviewed in the *Blue Jay*, 16:65, June, 1958. Reference is made to sightings at Ravenscrag, May 22, 1917, by Spencer Pearse, at the Pearse ranch at Eastend by Pearse and Neil Pratt and by Bob Friel at Farwell Creek. No specific dates are given for the latter records (presumably in the 1930's or early 1940's), but it is significant that all these observations were made on the southern slopes of the Cypress Hills.

In the same general area Ruth Baker and I on May 6, 1969 observed one alight on a boulder and then walk into and under the water as it rushed, in flood, over the concrete crossing of the Frenchman (Whitemud) River 10

to 11 miles west of the steel bridge at the town of Eastend. We had driven off the river road, under a railway trestle, leading into Alf Pearse's ranch.

Sharon Haggerty of Regina reports having seen a Dipper a few days later, on May 9, in the Cypress Hills Park. The bird was also seen by Miss Haggerty's companion, who was familiar with Dippers in the mountain streams at Jasper, Alberta.

I returned with Margaret Belcher on June 15 to show the location to her and to Dr. George Ledingham, on our way home from the S.N.H.S. annual field meeting. However, a brief search for the Dipper along the creek was without success.

NINTH ANNUAL MAY BIRD CENSUS, REGINA

On Saturday, May 17, 38 persons counted a total of 150 species and 7909 individual birds in the Regina area. The total of 150 species is a new record and surpasses by six the previous high of 144 established in 1966 and equaled in 1967. Although we were obviously short of counters to cover the area adequately, it was encouraging to note that included in the total were 10 teen-aged girls. The girls belong to the St. Chad's Science Club and were brought into the field by Lorne Scott, our youth program co-ordinator.

Weather conditions were favorable; extensive cloud cover in the morning was followed by bright sunshine in the afternoon; SE winds gusted to 25 mph, temperatures ranged between 35° and 65°.

The highlight of this year's count was the discovery by Father Bedard and Greg Bobbitt of a male Prothonotary Warbler; this find constitutes a first for our area and places this

eastern warbler well out of his range. It is also worthy of note that a Winter Wren, rarely observed in the area, was seen by George Ledingham.

SPECIES LIST

(Numbers for May 11, 1968 in parenthesis for comparison)

Horned Grebe, 18 (71); Eared Grebe, 62 (66); Western Grebe, 24 (41); Pied-billed Grebe, 2 (15); Black-crowned Night Heron, 4 (0); American Bittern, 1 (2); Mute Swan, 5 (2); Whistling Swan, 10 (34); Canada Goose, 340 (305); Mallard, 301 (332); Gadwall, 30 (94); Pintail, 157 (64); Green-winged Teal, 13 (25); Blue-winged Teal, 77 (147); American Widgeon, 52 (175); Shoveler, 77 (70); Redhead, 26 (170); Ring-necked Duck, 6 (2); Canvasback, 63 (86); Scaup, 130 (355); Bufflehead, 7 (11); Ruddy, 34 (43); Hooded Merganser, 1 (0); Sharp-shinned Hawk, 1 (1); Red-tailed Hawk, 2 (5); Rough-legged Hawk, 1 (1); Swainson's Hawk, 9 (6); Marsh Hawk, 7 (33); Sparrow Hawk, 1 (2); Ruffed Grouse, 2 (0); Gray Partridge, 3 (5); Virginia Rail, 1 (0); Sora, 7 (8); Coot, 39 (460); Semipalmated Plover, 16 (38); Killdeer, 84 (153); American Golden Plover, 55 (0); Black-bellied Plover, 9 (1); Common Snipe, 1 (0); Spotted Sandpiper, 22 (22); Solitary Sandpiper, 2 (25); Willet, 22 (55); Greater Yellowlegs, 2 (7); Lesser Yellowlegs, 13 (50); Pectoral Sandpiper, 64 (83); Baird's Sandpiper, 78 (46); Least Sandpiper, 13 (19); Dowitcher,

9 (16); Semipalmated Sandpiper, 28 (9); Marbled Godwit, 7 (29); American Avocet, 62 (38); Wilson's Phalarope, 27 (22); Northern Phalarope, 21 (0); Herring Gull, 2 (0); California Gull, 2 (0); Ring-billed Gull, 78 (106); Franklin's Gull, 10 (238); Forster's Tern, 2 (0); Common Tern, 43 (22); Black Tern, 20 (10); Rock Dove 81 (57); Mourning Dove, 62 (40); Great Horned Owl, 5 (1); Burrowing Owl, 2 (11); Long-eared Owl, 1 (0); Short-eared Owl, 2 (0); Belted Kingfisher, 4 (11); Yellow-shafted Flicker, 38 (42); Red-shafted Flicker, 1 (0); Yellow-bellied Sapsucker, 2 (2); Downy Woodpecker, 1 (3); Eastern Kingbird, 16 (0); Western Kingbird, 55 (6); Eastern Phoebe, 5 (6); Least Flycatcher, 63 (3); Western Wood Pewee, 5 (0); Olive-sided Flycatcher, 2 (0); Horned Lark, 415 (572); Tree Swallow, 139 (26); Bank Swallow, 21 (0); Cliff Swallow, 2 (1); Barn Swallow, 86 (10); Rough-winged Swallow, 1 (0); Purple Martin, 29 (32); Magpie, 42 (42); Crow, 102 (105); Red-breasted Nuthatch, 14 (0); Brown Creeper, 1 (1); House Wren, 21 (1); Winter Wren, 1 (0); Catbird, 4 (0); Brown Thrasher, 34 (3); Robin, 160 (169); Hermit Thrush, 2 (2); Swainson's Thrush, 81 (200); Gray-cheeked Thrush, 52 (93); Veery, 1 (0); Eastern Bluebird, 2 (1); Ruby-crowned Kinglet, 2 (11); Sprague's Pipit, 2 (0); Loggerhead Shrike, 21 (17); Starling, 42 (32); Solitary Vireo, 2 (0); Warbling Vireo, 2 (0); Prothonotary Warbler, 1 (0); Black-and-white Warbler, 9 (0); Tennessee Warbler, 9 (0); Orange-crowned Warbler, 11 (21); Yellow Warbler, 45 (9); Myrtle Warbler, 52 (204); Blackpoll Warbler, 9 (1); Pine Warbler, 1 (0); Palm Warbler, 2 (13); Ovenbird, 3 (0); Northern Waterthrush, 9 (6); Yellowthroat, 1 (1); Wilson's Warbler, 1 (0); Redstart, 1 (1); House Sparrow, 457 (669); Bobolink, 4 (0); Western Meadowlark, 249 (276); Yellow-

headed Blackbird, 53 (192); Red-winged Blackbird, 545 (698); Baltimore Oriole, 15 (1); Rusty Blackbird, 2 (2); Brewer's Blackbird, 226 (487); Common Grackle, 136 (179); Brown-headed Cowbird, 141 (136); Rose-breasted Grosbeak, 27 (1); Purple Finch, 20 (4); American Goldfinch, 18 (0); Rufous-sided Towhee, 3 (3); Lark Bunting, 13 (0); Savannah Sparrow, 17 (55); Baird's Sparrow, 1 (0); Vesper Sparrow, 42 (82); Lark Sparrow, 1 (0); Chipping Sparrow, 52 (144); Clay-colored Sparrow, 118 (160); Harris' Sparrow, 108 (177); White-crowned Sparrow, 93 (263); White-throated Sparrow, 90 (212); Fox Sparrow, 2 (0); Lincoln's Sparrow, 18 (168); Swamp Sparrow 1 (11); Song Sparrow, 10 (21); McCown's Longspur, 82 (13); Lapland Longspur, 1252 (5695); Chestnut-collared Longspur, 124 (55); Snow Bunting, 1 (0).

Total species, 150. Total individuals, 7909. Participants: Jessie Bailey, Father Bedard, Margaret Belcher, Al and Betty Binnie, Greg Bobbitt, Bill Brownlee, Marilee Cranna, Sandra Crooks, Betty Cruickshank, George Dodd, Pearl Guest, Gayl Hipperson, John Horton, Jim Jowsey, Fern Lawrence, George Ledingham, Christine MacDonald, Joyce Munn, Connie Pratt, Joe Roberts, Barbara Ross, Shirley Sather, Lorne Scott, Mrs. Sykes, Elisabeth Wagner, Holly Wallace, Janie Wilhelm, and 10 girls from St. Chad's Science Club.—Compiled by Al and Betty Binnie.

SPRING BIRD OBSERVATIONS ON LANGARA ISLAND, BRITISH COLUMBIA

by **R. Wayne Campbell**, Burnaby, B.C.

In the spring of 1966 Norman Clarkson, Lowell Orcut, Ken Kennedy and the writer visited Langara Island for the purposes of banding Ancient Murrelets, collecting birds for the University of British Columbia and collecting intertidal marine mollusca. Since little is recorded on bird distribution in the northwestern corner of the province, field notes were made on the birds encountered.

Langara Island lies just north of Graham Island (the largest island) in the Queen Charlotte Islands Biotic Area. The island is "slightly over five miles long and four miles wide at the widest point. The shores are precipitous, the interior partly forested with conifers and partly muskeg" (Munro

and Cowan, 1947). Sitka spruce (*Picea sitchensis*) is the climax tree with associated stands of western red cedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*) and lodgepole pine (*Pinus contorta*) being common. The trees are covered with beard moss (*Usnea* sp.) and the forest floor carpeted with salal (*Gaultheria shallon*) consequently making interior travel difficult.

The island is best known for its nesting Peregrine Falcons (*Falco peregrinus*) and is considered one of the few remaining strongholds for this magnificent bird in British Columbia. As well, Langara Island supports a large and varied population of breeding seabirds. (Drent and Gui-



guet, 1961). These include Fork-tailed Petrel, Leach's Petrel, Pelagic Cormorant, Glaucous-winged Gull, Pigeon Guillemot, Ancient Murrelet, Cassin's Auklet, Rhinoceros Auklet and Tufted Puffin. Bald Eagles are also known to be in abundance on Langara Island.

Transportation about the island was confined to a small rubber raft. Paddling against strong currents, huge ocean swells and close to rocky shores made exploring the entire island difficult and hazardous. Consequently our observations, from April 28 through May 3, include only the

southern portion of Langara Island, from about Cox Island south to the tip (see map).

SPECIES ACCOUNT

Arctic Loon *Gavia arctica*. An adult, in summer plumage, was seen in Beal Cove on May 2 and 3.

Red-necked Grebe *Colymbus grise-gena*. Two adults, both in full summer plumage, were seen in Beal Cove on May 3.

Fork-tailed Petrel *Oceanodroma furcata*. On April 30 a check for petrel burrows was made around Cox Island. About 20 burrows, in various habitats, were excavated. No signs of



Photo by R. Wayne Campbell

Rocky shores of Langara Island.

nesting materials, eggs or adults were found. Some burrows, however, seemed freshly excavated. In the afternoon of the same day we recorded an adult Fork-tailed Petrel flying low over the water past Cox Island.

Brandt's Cormorant *Phalacrocorax penicillatus*. Two to four were seen daily in the Henslung Cove area.

Pelagic Cormorant *Phalacrocorax pelagicus*. Common in coves, often 10 to 20 seen flying together, during our stay. Two adults were collected.

Great Blue Heron *Ardea herodias*. One sighting of an adult feeding on intertidal fishes in Henslung Cove on May 3.

Canada Goose *Branta canadensis*. Large flocks of about 300 birds were seen flying northward over Henslung Cove on April 29 and 30.

Brant *Branta bernicla*. A flock of 12 was seen flying seaward from Henslung Cove on May 2.

White-fronted Goose *Anser albifrons*. On April 29 a flock of about 600 was seen flying northwest over Beal Cove. From this date through May 3 several very large flocks were heard passing low over Beal Cove during the evenings.

Mallard *Anas Platyrhynchos*. Two pairs were recorded on April 28 and a single pair on May 3 resting on intertidal rocks north of Holland Point.

Pintail *Anas acuta*. An adult male and female were startled from the water near Holland Point on May 3.

Blue-winger Teal *Anas discors*. A male and female were seen circling low over Beal Cove on May 2. Eventually they settled in Solide Passage.

Greater Scaup *Aythya marila*. An adult male was seen diving in Beal Cove on April 28.

Bufflehead *Bucephala albeola*. Two pairs were recorded, one in Beal Cove on April 28 and the other north of Holland Point on May 3.

Harlequin Duck *Histrionicus histrionicus*. Common along the rocky shores. On May 3, 29 were counted in Henslung Cove. Three males and one female were collected.

White-winged Scoter *Melanitta deglandi*. Two were seen diving in shallow water north of Holland Point on May 3.

Surf Scoter *Melanitta perspicillata*. Three females and one male were observed resting on the water near Holland Point on May 3.

Red-breasted Merganser *Mergus serrator*. An adult male was seen swimming in Solide Passage on April 29.

Bald Eagle *Haliaeetus leucocephalus*. Common, usually six to 10 birds were recorded daily. On May 2, 21, nine adults and 12 immatures, were counted soaring a few hundred feet over

the southern tip of the island. On May 3, 34 were counted on a trip from Henslung Cove to Cohoe Point.

Three nests were located, each with incubating birds. Two nests, one near Iphigenia Point and another at Henslung Cove, could not be checked. One just north of Holland Point, however, contained one egg. Incubation had just started. The nest was a bulky structure of sticks about six feet in diameter and lined with cedar boughs. It was situated in a spruce tree about 30 feet above the ground.

Peregrine Falcon *Falco peregrinus*. Single birds were seen regularly during our stay. On April 30 three birds were seen together on Cox Island. An apparent nest with an incubating bird was located on the cliffs on Cox Island the same day.

Black Oystercatcher *Haematopus bachmanii*. Common along the beaches where it feeds on various forms of marine life, notably the limpets (*Acmaeidae*) and chitons (*Amphineura*). Usually two to six birds were recorded daily. On May 3 eight were seen flying together through Solide Passage. Two adults were collected.

Sanderling *Crocethia alba*. One, in breeding plumage, was seen in Beal Cove on May 2.

Glaucous-winged Gull *Larus glaucescens*. Common, regularly seen roaming the beaches during our stay. About 20 frequented the shores until May 1 when about 250 gulls were seen passing through Solide Passage. Numbers gradually increased until we left on May 3.

Mew Gull *Larus canus*. One sighting only of an adult in Beal Cove on April 28.

Pigeon Guillemot *Cephus columba*. Common, especially in the Henslung Cove area where about 50 were recorded daily. Two adults were collected.

Ancient Murrelet *Synthliboramphus antiquus*. Abundant, though seldom seen during the daylight hours near the breeding grounds. This species is a burrow nester, spending the day in large rafts offshore, coming to land during the late evening to exchange

incubation duties. Wherever slope is sufficient the murrelet is likely to be found nesting but we found several nests, all with freshly broken shells (attributed to predation by Alexandrian Rats, Campbell, 1968b), in the rather level stretch of upper beach along Solide Passage.

On April 30 we checked several grassy slopes north of Holland Point for possible active burrows. Of 28 fresh-looking burrows checked, one contained two eggs, 11 contained one egg and the remainder were empty. No adults were found incubating. Eggs in the completed clutch measured (in inches) 2.41 x 1.52 and 2.35 x 1.46. On May 2 and 3 we spent the evenings on the steep hills north of the Indian Reservation of Dadens. The grounds here were riddled with murrelet burrows. About 7:30 p.m. we could see the birds begin to gather in large flocks in Parry Passage. The flight to the colony or breeding grounds started about 10:30 p.m. and was mostly completed by midnight. The birds would fly directly into the trees or thick salal beds, fall to the ground, and scamper off to their respective burrows. By night-lighting (Campbell, 1968a) we captured and banded several birds.

Four adults were collected on May 2.

Saw-whet Owl *Aegolius acadicus*. This small owl was fairly common in the open grassy fields near Dadens. An adult male was collected on May 1.

Rufous Hummingbird *Selasphorus rufus*. A single adult male was present near Village Point throughout our stay. It was very aggressive, likely defending a territory.

Belted Kingfisher *Megaceryle alcyon*. An adult male was seen on April 29 and 30 diving in Beal Cove.

Downy Woodpecker *Dendrocopos pubescens*. Present throughout our stay, often seen searching tree trunks behind Dadens.

Tree Swallow *Iridoprocne bicolor*. At least six birds were regularly seen around Beal Cove during our stay.

Common Raven *Corvus corax*. A common bird, often seen soaring over

the centre of the island. On April 28, 20 were seen, another 15 on May 3.

Northwestern Crow *Corvus caurinus*. Abundant, especially on an ebbing tide. At least 40 fed daily among the intertidal zone in Beal Cove. On May 3, 55 were recorded from Holland Point to Cohoe Point.

Chestnut-backed Chickadee *Parus rufescens*. Common, inhabiting the interior forested areas of the island. On May 2 a pair was observed excavating a nest cavity.

Winter Wren *Troglodytes troglodytes*. This species was more often heard than seen; however, three birds were seen near Holland Point on April 29.

Varied Thrush *Ixoreus naevius*. Two were heard near Beal Cove on April 29 and one was seen in the same area the following day.

Savannah Sparrow *Passerculus sandwichensis*. Not recorded until May

2 when birds became quite common along the log-littered beaches. Three specimens were collected.

Song Sparrow *Melospiza melodia*. Common among the low brush and grass areas near Dadens. Two adults were collected.

SUMMARY

Field notes have been documented on 38 species of birds recorded from the southern portion of Langara Island in six days during spring migration in 1966.

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SIXTEEN NEW BIRD RECORDS FOR MANNING PARK, B.C.

by Kenneth R. Beckett, Park Naturalist
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Under the British Columbia Nature Interpretation Program, park naturalists keep records of bird sightings in the various parks as part of their work from June to early September. In Manning Park, located between Hope and Princeton on the southern Trans Provincial Highway, the first check list was compiled in the late 1950's. Since then new "finds" each year usually amounted to a few species with a resultant total list in 1966 of 148 varieties. Through the combined efforts of four interested park naturalists during the past two years, 16 new species have been added to this list to bring the 1968 total to 164. These new records are as follows: Arctic Loon; Red-necked, Horned, Eared and Pied-billed grebes; Shoveler, Redhead and Ruddy ducks; Common Snipe; Mew Gull; Arctic Tern; White-winged Scoter; Black-chinned Hummingbird; Cliff Swallow; House Sparrow and American Goldfinch.

Because the Similkameen valley reaches westward from the Okanagan into the southern portion of this 176,431-acre park and the Gibson Pass leads on through the northern Cascade Mountains, many birds use this route either by choice or chance during the fall migration. Again, individuals and small groups moving up in the spring from Ross Lake in Washington State into Canada may fly this same route in the opposite direction. In either case, careful daily checking along the Similkameen River, the Lightning Lakes chain (four small lakes), and the Gibson Pass area will undoubtedly prove fruitful again. Birds migrating through this park often stop over briefly, perhaps only an hour or two, and can slip by unnoticed. This makes the study of bird movements unpredictable and frustrating as it so often is; but, at the same time, deeply rewarding in unusual sightings. Our 16 park records were such rewards.

A check list of the birds of Manning Park can be obtained by writing the Parks Branch, Legislative Buildings, Victoria.

PREDATION ON WOODCHUCK BY CANADA LYNX IN BRITISH COLUMBIA

by Michael Wilson, 196 Westover Drive,
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In a recent paper, de Jong (1966) described the food habits of the Canada Lynx, *Felis (Lynx) canadensis*, in Alberta and the Northwest Territories, noting a dependence upon the Snowshoe Hare (*Lepus americanus*) and, to a lesser extent, upon various microtine rodents.

On the basis of this and other work (Saunders, 1966; Novikov, 1962; Cowan and Guiguet, 1955) it is probable that the Snowshoe Hare is of similar importance as a prey species in British Columbia.

The present paper brings attention to a Lynx skeleton (U. of Calgary, Archaeology Collections, no. OS-268) collected in 1967 by Mr. C. J. Turnbull, Dept. of Archaeology, U. of Calgary. The skeleton, from near Babine, British Columbia, was already clean when found; however, bones derived from the animal's last meal were preserved in the stomach region. They are referred without question to the genus *Marmota*, species undetermined.

The marmot and woodchuck were not noted as prey species by de Jong (1966), although *M. caligata* and *M. monax* are quite common in Alberta. It is difficult to assess this single record, but these rodents may be of considerable importance to the Lynx, especially in times of Snowshoe Hare scarcity. *Marmota monax*, the parkland species, is the only one recorded by Cowan and Guiguet (1955) at Babine Lake, but the range of *M. caligata*, a rocky slope denizen, is not far to the east. On this basis, the remains are provisionally referred to *M. monax*, the Woodchuck.

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A STRIPED GROUND SQUIRREL LOCALITY IN SOUTHERN ALBERTA

by Michael Wilson, 196 Westover Drive,
Calgary 5, Alberta

Soper (*Mammals of Alberta*, 1964: 139-140) summarized the range of the Striped or Thirteen-lined Ground Squirrel (*Spermophilus tridecemlineatus*) in Alberta; however, the local aspects of the southern portion of this range remain poorly defined. Soper described the southern foothills range of *S. t. tridecemlineatus* (Mitchell) as follows: "... chiefly the aspen grove belt ... west to a line running north-south through Westlock ... to at least Missing Link Mountain and Sheep River, 10 miles southwest of Turner Valley ... "

During May and June, 1968, eight sightings of these rodents were made near Stavely, Alberta, and limited behavioural notes were taken. The sightings fall into an oval area defined in the north by Sec. 16-14-28 W4, and in the south by Sec. 25-13-28 W4, and split into east and west halves by the valley of Willow Creek. The area is characterized primarily as prairie-level river bluffs, with a few higher buttes in the north. All of the sightings were made at prairie level or higher, with an altitudinal range of 3400 to 3900 feet above sea level, and in open shortgrass to prairie of the Transition Zone (sub-humid), as defined by Soper.

Despite a tendency to be silent, two individuals observed on Table Butte (3900' above sea level) were very bold, allowing photography from less than 10 feet when they were at their burrow entrances. Away from their burrows they allowed approach only to about 25 feet. The sightings were all made on sunny days, usually warm. A sighting on May 13, 1968 was made in sunshine after a sharp shower, and one on June 20 was made in a high wind (about 40 m.p.h.) atop Table Butte.

BIRD'S-NEST FUNGUS IN THE CYPRESS HILLS

by M. V. S. Raju and Barbara M. Ross,
University of Saskatchewan, Regina



University of Saskatchewan, Regina, Photo
Fig. 1. Photograph of bird's-nest fungus *Crucibulum*, growing on plant and soil debris. Note peridioles (sporangioles) in the cups. Magnified X4.

During a recent visit, June 21, 1969, to the Cypress hills in Saskatchewan, we observed a fungus belonging to the group Basidiomycetes in an area where aspen and lodge-pole pine were in abundance. This fungus was later identified as the genus *Crucibulum* of the order Nidulariales. Several individuals of this fungus showing various stages of growth were found on decayed wood and on other plant and soil debris (Figs. 1, 2, 4). These minute forms varied considerably in height from 2-8 mm.

Crucibulum and also other members of the Nidulariales are commonly called bird's-nest fungi, because the mature plant body (fruiting body)

appears like a bird's nest with a shallow cup in which lie white lentil-shaped structures that resemble bird's eggs (Figs. 1, 2, 5). These egg-like structures are known as peridioles. This fungus is seldom seen in nature, but it occurs in great numbers whenever it is seen to occur in an area.

The young fruiting body arises as a small brownish, often hairy, knob and it is made up of an outer rough dark covering called the peridium which later on opens to form a cup with white inner surface. When the cup opens up, a whitish structure called the gleba is exposed (Fig. 4). The gleba on maturity produces several peridioles (Figs. 1, 2, 5). Each

peridiole contains a large number of basidiospores; it is white and smooth on the upper side and slightly brownish and hairy on the lower side (Fig. 3). At certain stages, particularly when the peridiole is being disseminated, it shows on its lower mid-region a funicular cord that terminates at the free end in a slightly expanded hapteron. In fig. 3 the hapteron of the peridiole with its long and stretched funicular cord, is attached firmly to the inner side of the cup of the fungus. If the conditions are favourable, the basidiospores enclosed in the peridiole germinate, producing a large mass of filamentous structures or mycelia. Such mycelia further spread on the substrata such as decayed wood, etc., and subsequently develop into complex fruiting bodies of the type described before.

The peridioles of the Nidulariales are known to exhibit an interesting "splash-cup" mechanism in their dissemination. In some members, it has been demonstrated that a rain drop falling into the cup splashes the peridioles to a distance of about a meter and some rare instances to a height of 3-4 meters.

The fungus *Crucibulum* is essentially a tangle of innumerable delicate microscopic filaments produced by minute basidiospores. These subtle filaments undergo a series of highly complicated developmental stages that culminate in highly organized microscopic bodies that we recognize in nature as the bird's-nest fungus.

While examining the cups of *Crucibulum*, we observed several small green rounded bodies on their white inner walls (Fig. 5). These microscopic bodies were later identified as colonies of filaments of a green alga, *Hormidium*, a member of the order Ulotrichales (Fig. 6). It is an interesting association and its exact significance is not clear at present. The occurrence of this green alga only in a few cups, however, suggests that the association is accidental.

For more details of this interesting fungus and the alga, the reader may consult the following references:

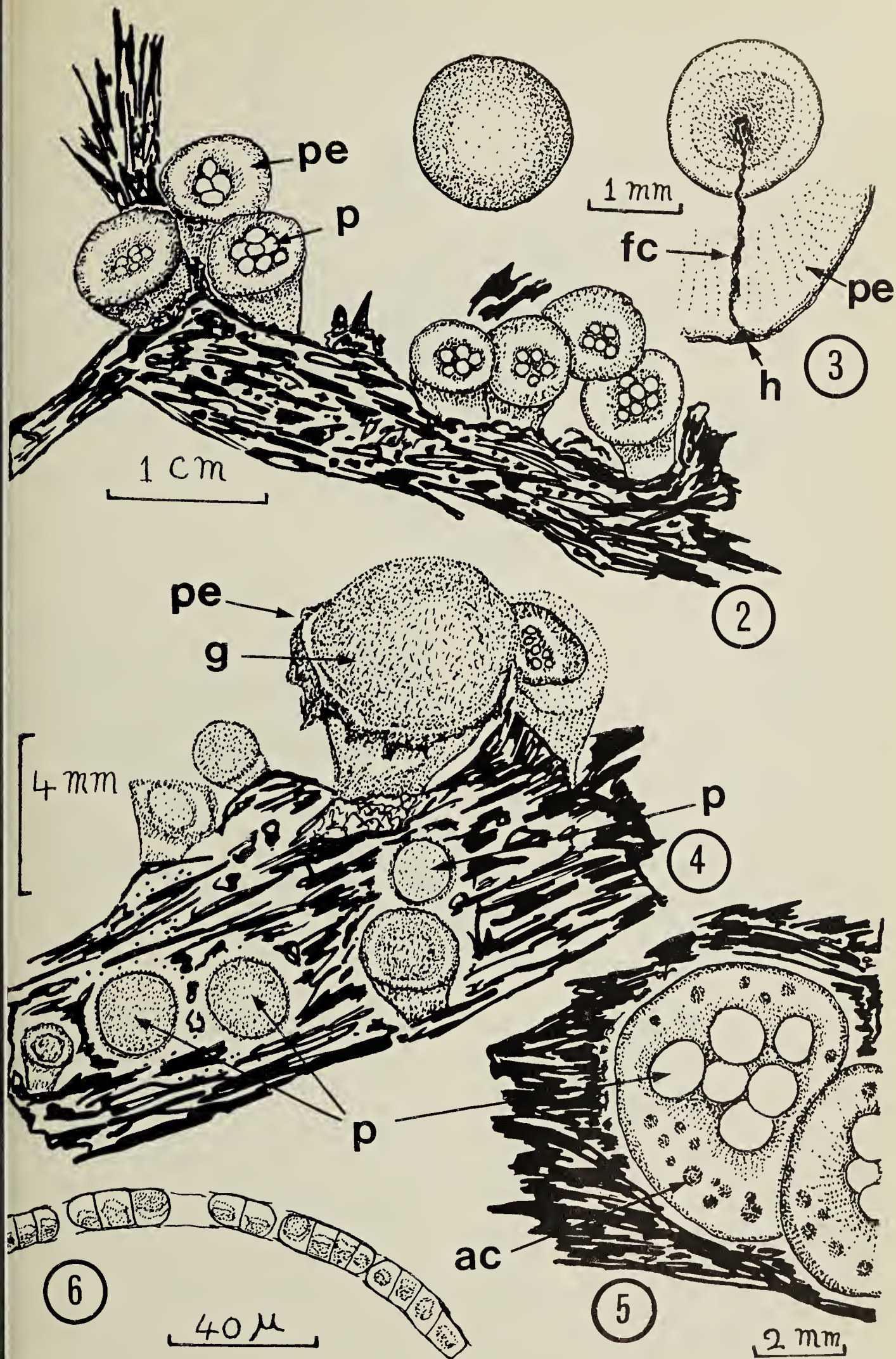
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Explanation of figures on opposite page

- Fig. 2. A piece of decayed wood with fruiting bodies of the fungus.
- Fig. 3. Upper and lower views of peridiole. Notice the long stretched-out funicular cord.
- Fig. 4. Decayed wood with the fungus showing various stages of development. Note the three peridioles attached to the substratum.
- Fig. 5. Top view of the fruiting bodies to show algal colonies and also peridioles.
- Fig. 6. Enlarged view of a fragment of algal filament. Scale indicates microns.

Explanation of abbreviations used in sketches

- ac, algal colonies
fc, funicular cord
h, hapteron
p, peridiole
pe, peridium.



Figs. 2-6. Drawings of bird's-nest fungus.

Junior Naturalists

Edited by **Joyce Deutscher**, 7200 6th Ave., Regina

NATURE HOBBIES

by **Helene White, Edmonton**

Did you manage to find a butterfly, moth or dragonfly these past months? If you found but one specimen and wonder how you can show it off don't worry, there is an answer as well as one for the lucky person who found several. But first we must relax them. Select a wide-mouthed covered jar or tin for your relaxing box. My choice was a plastic fridge container with a tight snap lid. Cover the bottom with absorbent cotton, sand, sawdust or even salt and lightly sprinkle with water. A little alum dissolved in the water before using will prevent mould from forming in your box. Cover this moist bed with a piece of wax paper, then lay your insect on this. Put on the lid. Twenty-four to forty-eight hours in the box will usually soften the specimen so that it can be spread easily.

Meanwhile you can be scrounging two pieces of corrugated cardboard for your drying board, a few straight pins and some narrow strips of paper. Tape the cardboard pieces together with the corrugations at right angles to each other, then cut a strip of the paper away with a razor blade to form a trench as shown.

Lay your relaxed butterfly on the drying board with the body in the trench. Pin it through the thorax, but never try this on a dry one. Then using a strip of paper and the pins gently secure first one pair of wings and then the other. Leave it to dry thoroughly, about three days.

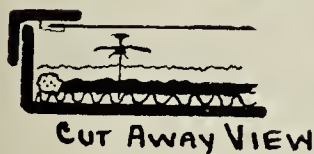
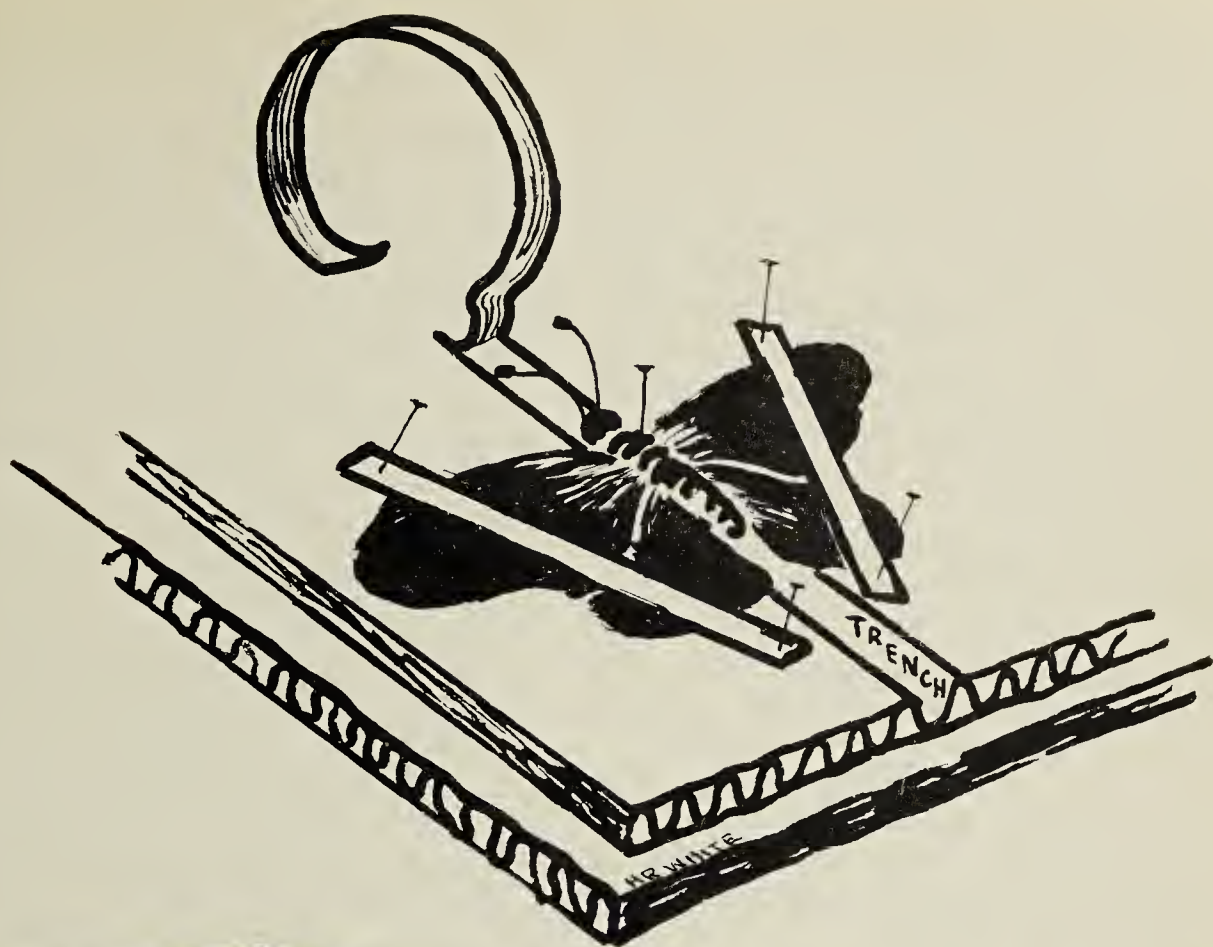
During this time gather together some interesting dried grasses, weeds, pressed flowers and a paper plate. The one shown was used by a supermarket to hold produce. This plate is to become a picture so colour the bottom with water colours or blackboard

chalks (glue won't stick to crayons) or cover with coloured paper or cloth, leaving the rim to act as a frame. Arrange your dried plants in a pleasing way on this background, then glue them down lightly with dots of white glue. Remove the pin and glue the butterfly to the picture. Instead of glass, cover the picture with clear plastic wrap from the kitchen, taping it securely to the back. Write the names, common and scientific, date and place found on the back, then tape a string hanger in place. Your study is ready to add to your home natural history museum.

To construct a professional looking case for several specimens you will need a box similar to the ones Christmas cards come in, making certain it is at least half again as deep as your straight pins are tall. Cut a window in the box lid leaving a one-inch frame all around. Tape clear plastic kitchen wrap to the **INSIDE** of the lid. Line the bottom of the box with two layers of corrugated cardboard, corrugations running at right angles to each other. Add a sprinkle of moth crystals or cut a hole in the boards to receive a mothball or two, then cover with a layer of absorbent cotton. The case is now ready to receive your collection.

Each pin-mounted specimen must be labelled. These pin labels should be small and neat but easily read. Print the locality and date found plus the names of your butterfly on each and pin beneath the insect. Cover the collection with the windowed lid and if the case is full, tape the lid down for added protection from dust and insects.

A true collector keeps a notebook on his observations of the live insects. What do they eat? Where do they spend their days and nights, winters and summers? How long do they live? Countless interesting questions will



HIDING A
DAMAGED
WING.



Illustrations by Helene R. White

SAW-WHET OWL

by Rosemary Nemeth, age 13, Yellow Creek

While my dad and I were looking for horned owl nests we came across an old tree. My dad kept on walking. I looked up at an old tree and saw an owl looking out of a hole in the tree. I called my dad back and we looked at it for a while. Then I guess the owl got tired looking at us so it went back down the hole. We tapped the tree. The owl popped its head out and went down again. Then we left.

Then a week later Doug Whitfield came out. We told him about the

pop into your mind. Write them down, then search for the answers.

Since the next time we meet it will be cold, we had better gather our materials for the coming project in the warm fall sunshine. Look for goldenrod galls, dried grass, and for whittling, dead twigs and branches from the woods or those pruned from city trees. Please don't deface a live tree. Also search for some sturdy pliable house wire. From these materials we are going to construct a creche and start a wood collection with a difference.

little owl and we thought it was either a Boreal Owl or a Saw-whet Owl. We went and banded the mother owl. It was a Saw-whet Owl. It had six white eggs.

On June 7 Doug Whitfield came out to band the little owls. There were six little owls, one bigger than the others. Doug put them on an old branch and took pictures of them. They were the cutest little owls I have ever seen.

The Saw-whet Owl's call is a series of long whistles. It is very unusual finding a nest in the Yellow Creek district because they usually nest up by the Saskatchewan River.

It was a very beautiful bird.

MY OWL

by Robert Galloway, Oxbow

I once had an owl named Magrew
Don't laugh, for it's perfectly true.
He had only one leg
And ate fish and eggs
My lame little owl named Magrew.
He sat on a perch in our basement
And hissed a strict little statement.
He seldom would hoot
But his face was quite cute
My nice horned owl in the basement.

Editor's Note: Robert's owl was an injured one which was housed for the winter in the Galloway home. They released the owl in the spring but heard no more of it.

BANDING A HAWK-OWL

by Lyall Hunter, Waitville

On April 27, while walking in the bush I saw a Hawk-Owl land in a tree nearby. I walked towards him and he flew into a clump of large trees. I noticed one of the trees had the top broken off.

Two weeks later I went with Dr. Houston and others interested in bird banding to the trees where I saw the hawk disappear. When we reached the tree a Hawk-Owl flew out and landed in a nearby tree. Then Doug Whitfield climbed the tree. When he was half way up the male attacked and fell to the ground and was caught and banded. When he reached the top the female landed about two yards away

from him and was caught and banded.

The nest had eight white eggs in it.

WILBER SCHRAMM'S "CLASSROOM OUT-OF-DOORS"

Boys and girls will be pleased to know that someone as far away as San Diego, California, is right in there rooting for them when it comes to outdoor education. One of the newer members of the Saskatchewan Natural History Society, Gerald Fox from San Diego, sent us an excellent book entitled "Classroom Out-of-Doors" by Wilbur Schramm. The author does what few do well; he writes about educational philosophy, methods and statistics—the discovery method of teaching in particular—in a very readable and interesting style. The book is written in a conversational manner and deals with every phase of outdoor education from the initial planning and selection of staff to the way energetic sixth graders are handled by expert camp teachers. A week in camp school is described, although the author spent much more time than a week in compiling his material and absorbing the atmosphere of the San Diego camp schools.

Throughout the book students and teachers are continually bringing up questions. Can we pick up a snake if it is not poisonous? What would the Indians have done here that might have turned the soil black? What would we eat? Remember we are Indians. What is there to eat? What did this land look like millions of years ago?

The purpose of the San Diego camp schools is stated in Schramm's book by Denver Fox, one of the people actively involved with the camps for over 20 years: "Above all, we would like to help the child become a more complete person—not only educationally, but spiritually and socially too. To give him experiences he otherwise never would have had. To help him become more self-dependent, more mature, more competent in skill and knowledge. To help him view the world in new ways of

questioning, wondering, discovery, solving problems."

Although this book is written primarily for adults, I would highly recommend it to any young person who is considering taking up teaching or who is interested in outdoor education.

The author practises what the school preaches—the discovery method of learning, and we discover along with him how an outdoor education program is successfully organized and run.—Reviewed by *Joyce Deutscher*.

SASKATOON JUNIORS' BIRD HOUSE PROJECT

by **David V. Houston**, President, Saskatoon Junior Natural History Society

The Saskatoon Junior Natural History Society was formed in November, 1968 and we began building bluebird houses in January. All the materials were donated and Mr. Wm. Brucks precut some of the lumber for us. Following Lorne Scott's directions, the houses were 9½" high with outside measurements of 5½" by 5½", with a 1½" diameter hole and a backboard of 12". To avoid the expense of hinges, wood strips were nailed on the inside of each lid to make it fit snugly into the top of the box. With the lid on the box, small holes were drilled through the sides of the box into the wood strips. Shingle nails were then inserted to keep the lid from blowing off in the wind, yet allowing the lid to be removed whenever we wanted to check the contents of the box or clean it out.

During eight afternoons, 207 houses were constructed by a crew composed of Michael and Rod Bantjes, Jeff and Joan Besant, Ray Bisha, David and Kim Epp, Dave and Don Houston, Jeff Krolik, David Nowosad and Gordon and Tom Teed. Five afternoons in late March and early April were required to place the houses, two or three per mile, from south of Saskatoon to Simpson.

The tops blew off many boxes and at first we thought that the boxes had been vandalized, but we later

realized that the prairie wind was too strong for shingle nails! In fact, many farmers had been putting the tops back on, adding rocks on top to hold them down. During the year, we replaced the tops on 70 of our houses, now using two-inch nails. Twenty-five were knocked down by cows, farm operations or vandals.

We feel that the project has been very successful because of the high rate of occupancy of desirable species (3 pairs of Mountain Bluebirds and 128 pairs of Tree Swallows) and the very low rate of unwanted species (1 House Sparrow and 2 House Wren nests and no Starlings). Both wrens were in boxes on posts in shubbery.

Next year we hope to put boxes all the way to join up with Lorne Scott of Indian Head. Since Lorne has already joined with Jack Lane of Brandon, this would mean a trail 400 miles long! Although we had only three pairs of Mountain Bluebirds this year, we hope their numbers will increase as the years go by.



Saskatoon Star-Phoenix Photo
Locating a blue bird house,
southeast of Saskatoon, 1969.

Letters and Notes

TIMBER WOLVES

It has been my pleasure for the last several years to receive the very excellent *Blue Jay*. Few indeed are the natural history publications that can boast so varied, yet cohesive a mixture of subjects. From your sensitive and highly significant editorials, to the fascinating "Junior Naturalists" section, the SNHS, through the *Blue Jay*, consistently shows its importance to present and future appreciation of our natural environments.

However, I have "a bone to pick" with you! In Newsletter No. 3 (April, 1969), the editor outlined resolutions passed at the Annual Meeting. All are good—but No. 3 ("concerning Timber Wolves"). It states that the SNHS will make representations to the Saskatchewan Department of Natural Resources to the effect that . . . "the program of deliberate poisoning of Timber Wolves be terminated, except where it is locally necessary for the protection of agricultural practice."

Regardless of how one feels towards the belief that wolves create significant problems to agricultural practices (a supposition which I cannot accept), surely one cannot support *any* program of predator control that includes poison as one of its tools.

Have we not learned our lesson with regards to these biocides? Must we allow the indiscriminate slaughter of numerous other species along with the so-called "menace"? Surely not!

Such programs would seem to be completely contrary to the very essence of any natural history society. We cannot afford to stand by complacently and permit such destruction. We cannot afford to stand by complacently and condone (by default) *any* poisoning campaign. Above all, we cannot afford to stand by complacently and allow further reduction of our Wolf populations.

Let's give Resolution No. 3 further consideration before leaping into

something that we will almost certainly regret later.—*D. F. Brunton*, Killbear Provincial Park, Ontario.

ENJOYING WILDLIFE IN ITS NATURAL HABITAT

I am a member of SNHS and a university student, and my fiancée and I are fond of the outdoors and like to spend evenings driving in the country around Saskatoon. One day this spring we were interested to see 26 large white birds on a small slough at the edge of a stubble field just east of Sutherland. On closer inspection, the birds were identified as Whistling Swans. When we returned that evening we noted only two birds on the slough, but several minutes later 42 of the long-necked white birds flew into sight. About 24 of the group landed on the slough and the remainder headed north. We checked the swans carefully through our binoculars, but none had the black, yellow or blue marking described from the John Hopkins University banding project.

On the same slough as the swans, we observed three American Avocets, several Killdeer, California Gulls, Lesser Scaup, Shovelers, Mallards, Blue-winged Teal, and a host of Red-winged Blackbirds. In the area only a few miles from the slough, were two Burrowing Owls, several Loggerhead Shrikes, American Widgeon, and a multitude of crows, Brewer's Blackbirds, Robins, and meadowlarks. As well, a pair of Gray Partridge revealed themselves in a stubble field.

These are not uncommon species for the area, but it seems to us remarkable that we can drive out to observe them so close to the city of Saskatoon. All of us in Saskatchewan should be thankful that we are able to see wildlife in its natural, unspoiled, as yet unpolluted environment. We should all strive to keep our country in its natural state for all to enjoy.—*Garth Turner*, Saskatoon.



Photo by F. R. Vance

The white crocus

THE CROCUS ANEMONE OR PASQUE FLOWER

I suppose in future years we shall refer to the year 1969 as the year of the "Crocus" or Crocus Anemone or Pasque Flower.

The abundance, the beauty of form, long stems, large beautiful mauve blossoms and the high incidence of occurrence in a single plant (as many as 36 blossoms with 10 or 12 being very common) all contributed to the most welcome sight of the early spring.

The display was at its height on Saturday, April 19, 1969 and my wife and I considered it the most unusual in all of our experience of observations of crocuses in the Regina area. The mauve flowers made a continuous show along Highway No. 6 above the Qu'Appelle Valley for as far as the pasture land continued south.

In our usual quest for a still more beautiful picture of the Crocus Anemone we followed the slopes of the valley east of Highway No. 6. It was along this slope that we found a single plant with four white blossoms. We

continued our search for a distance of approximately a mile to determine if there were others but none was found.

The location of this plant was intriguing. Approximately 50 feet up the gradual sloping pasture there was located a small bluff which during the winter had served to catch the snow and form a huge drift. On this day, the melting snow formed a continuous supply of ice cold water for the plants below. The soil was soggy wet and my usual stances and photographic procedures were now being submitted to a thorough soaking while I recorded in a series of seven photographs the most exciting find.

We marked the plant. Returning again the following day, we found that another seeker had been there and removed the blossoms. The plant has now been removed.

This photo is among our prized collection of kodachromes of Saskatchewan. Currently, our objective is 300 flowers; we now have taken photographs of 213 all within Saskatchewan's boundaries.—*Fenton R. Vance, Regina.*



Photo by Connie Pratt

The cairn and plaque in the Saskatchewan Prairie Dog Sanctuary, June 14, 1969

PRAIRIE DOG SANCTUARY

A 40-acre prairie dog town has recently been bought in Southwestern North Dakota by the state's Game and Fish Department. The state hopes to preserve a chain of prairie dog towns. They hope that this will also protect the endangered black-footed ferret which lives exclusively in prairie dog towns.—*Conservation News*, Washington, D.C.

COWBIRD EGG IN MOURNING DOVE NEST

On the weekend of May 20, 1967, while visiting our old farmstead at Lady Lake, I found a Mourning Dove nest with one egg, eight feet up in a spruce in the backyard. Two weeks later, on June 3 and 4, the nest was revisited. It was deserted and contained one dove egg and one cowbird egg, while a second dove egg was on the ground below the nest. According to Houston (*Blue Jay*, 24:44, 1966)

and McNicholl, (*Blue Jay*, 26:22-23, 1968), there have been no previous published records for Saskatchewan of the Mourning Dove as a host for the Brown-headed Cowbird.—*Donald J. Buckle*, Lady Lake, Sask.

BIRD SLIDES

The Laboratory of Ornithology, Cornell University, appeals again for donations to its collection of kodachrome slides of birds. The collection is used for teaching and research. Since a variety of shots of each species is wanted to meet sundry requests, sometimes for just a portrait, sometimes for the bird on the nest, at a feeding station, in flight, bathing, and so on, kodachromes of even the commonest species may be acceptable. Send original slides and, if you wish, duplicates will be made and returned for your own collection and use. Slides may be sent to the **Cornell Laboratory of Ornithology**, 159 Sapsucker Woods Road, Ithaca, New York, 14850.

The Blue Jay Bookshelf

THE TONIC OF WILDNESS

by Margaret Belcher, Regina

In the final lines of a poem describing a wild little burn in the hills of Scotland, Gerard Manley Hopkins writes

What would the world be, once
bereft
Of wet and of wildness? Let them
be left,
O let them be left, wildness and wet;
Long live the weeds and the wilderness yet.

These lines were quoted in the *Blue Jay* a few years ago by Dr. Robert Nero in an editorial on "Wild Lands." They reflect the need for what the American writer and philosopher, Henry David Thoreau, called the "tonic of wildness." From time to time in editorials in the *Blue Jay*, or in feature articles, or in readers' letters, the theme has been repeated of the urgent need for the preservation of natural areas and of wilderness. And indeed, this has been a growing concern in recent years of an increasingly large number of people on this continent.

Thoreau's message and the book that embodies it, *Walden*, have come into their own in a new context in the current American enthusiasm for "wilderness." For example, a famous wilderness society, the Sierra Club, uses as its motto a line from Thoreau's essay on *Walking*: "In wildness is the preservation of the world." The origins and evolution of the wilderness concept on this continent are traced with deep insight in a recent book by Roderick Nash called *Wilderness and the American Mind* (1967). This is a book for those interested in the history of ideas, and also for those who want a well-thought-out rationale for the preservation of wild country.

In the brief preface to his book Nash explains the importance of the

wilderness concept in the American culture and how he intends to analyse its rôle:

"Wilderness was the basic ingredient of American civilization. From the raw materials of the physical wilderness Americans built a civilization; with the idea or symbol of wilderness they sought to give that civilization identity and meaning. The subject of this study is the delineation and interpretation of the changing American conception of wilderness. Today wild country enjoys widespread popularity: indeed the success of wilderness preservation is now threatened as much from a plethora of enthusiastic visitors as from economic development. Yet for most of their history Americans regarded wilderness as a moral and physical wasteland fit only for conquest and fructification in the name of progress, civilization, and Christianity. The gradual transformation that has largely (but not entirely) replaced this attitude with one of appreciation is the concern of this book."

This direct statement is followed by a prologue in which the author seeks out at once the meaning of "wilderness." Etymologically it is the Anglo-Saxon "wild-dëor-ness", the place of wild beasts. From the first, then, wilderness has implied both the presence of wild animals and the absence of men. It is a place where man is without his usual frame of reference and may feel lost and perplexed. Figurative usage has extended this meaning, so that today we hear the word used in curious ways: a city, for example, may be described as a "wilderness of streets", and urban degeneracy has been labelled the "neon wilderness."

On one hand, wilderness implies what is inhospitable, alien, mysterious and threatening. On the other hand, it can be beautiful, offering sanctuary from the presence of civilization

where, in Thoreau's words, men "lead lives of quiet desperation."

The definition of wilderness, or wild country, must be partly subjective. As Nash remarks, "One man's wilderness may be another's roadside picnic ground." When we come to apply the fairly well understood *general* idea of wilderness to a specific area, difficulty is encountered. The question is one of degree, and Nash asks us to consider: "Does the presence of Indians or range cattle disqualify an area? Does an empty beer can? How about airplanes overhead?"

The American concept of wilderness has, of course, Old World roots. Nash reminds us that to primitive man wilderness was mysterious and terrifying because he feared what he did not understand and could not control. The wilds continued to be repugnant even to the civilized Greeks and Romans, and when the classical poets sought to leave the town for a "natural" way of life, they were thinking of the pastoral countryside. The Hebrews of the Old Testament, too, opposed the wilderness and the desert to the "good land" which supported crops and herds, and when Jehovah punished a sinful people he found the wilderness condition to be his most effective weapon: "I will lay waste the mountains and the hills, and dry up all their herbage; I will turn the rivers into islands and dry up the pools . . . I will also command the clouds that they rain no rain upon it." The cities of Sodom and Gomorrah became parched salt wastes to punish their citizens for their sins.

Another dimension was added to the Judeo-Christian understanding of wilderness after the Exodus from bondage in Egypt when the Jews wandered with Moses for 40 years in the Sinai Peninsula. This experience gave wilderness several meanings: a sanctuary from the persecution of society, an environment close to God, and a place to prepare the chosen people for the promised land. Paradoxically, it was through its harshness that wilderness assumed these functions, hence

the later tradition of turning to the wilderness for re-dedication, and refuge, first with John the Baptist, the voice "crying in the wilderness" to prepare the way of the Lord, and then Christ himself, led "into the wilderness to be tempted by the devil."

The first settlers arrived in America with preconceived notions of wilderness derived from their inherited western culture. In addition, in the new land, wilderness constituted a physical barrier that had to be conquered. The pioneers were insensible to the wonders of inanimate nature and the French visitor De Tocqueville wrote in *Democracy in America* that they do not "perceive the mighty forests that surround them till they fall beneath the hatchet." "Uncultivated" was regarded as synonymous with "absolutely useless," and in an age which idealized "progress" frontiersmen looked through, rather than at, wilderness; for them, wild country had value as potential civilization.

The religiously-oriented Puritans felt that they were carrying out a divine mission in reclaiming the earth from "a state of nature." This reinforced the pride felt by the American pioneer in his conquest of the wilderness, a pride still expressed today, as Nash shows by referring to a State of the Union speech by Lyndon B. Johnson in 1965 in which the President took great satisfaction in the way his family had made the "barren" and "forbidding" country in the valley of Texas' Pedernales River "abundant with fruit, cattle, goats and sheep."

In the analysis made by Nash in his first chapter of the origins of the wilderness concept in America, his extensive and careful scholarship is already evident. This scholarly investigation continues through the main chapters of the book, which study the changing meanings and social functions of the idea. At no time, however, does the research that has given depth and authority to his work burden the author's style or make it less attractive to the ordinary reader. Background materials have

been well digested and judiciously selected for illustration, and the book remains a direct statement clearly made. At the same time, the note on sources at the end of the book and especially the footnotes to the text offer a wealth of references that invite one to pursue these subjects further, as Nash himself has done.

In the central chapters of the book, Nash looks at "the more favorable responses that haltingly took shape" against the background of repugnance felt toward wilderness.

It will be clear to everyone that early nineteenth century Romanticism, with its love of wild scenery and the primitivistic idealization of a life close to nature, helped effect the transformation of the wilderness concept. Byron's famous statement (1816) was taken by his generation as a manifesto:

There is a pleasure in the pathless
woods,
There is a rapture on the lonely
shore,
There is society where none
intrudes . . .
I love not man the less, but nature
more.

The New World, with its "pathless woods" and "noble savages" captured the Romantic imagination. Nash cites the obvious examples of this phenomenon, such as Chateaubriand's romantic novels *Atala* and *René*, but he also has other illustrations that will not be familiar to the reader, which add colour. For example, he tells the story of the New Hampshire lawyer who put the philosophy of primitivism into practice in the winter of 1818 when he donned a buffalo robe and set forth in company of two dogs on a four-thousand-mile "pedestrious tour" into the West. He wished to acquire, he declared, "the simplicity, native feelings, and virtues of savage life; to divest [himself] of the factitious habits, prejudices and imperfections of civilization . . . and to find amidst the solitude and grandeur of the western wilds, more correct views of human nature and of the true interest of man."

While Romanticism created a climate of opinion in which wilderness could be appreciated, the search for a distinctive American culture led to the realization that the American wilderness was unique and a national asset! Nash has a good chapter on the prophet of the American wilderness, Henry David Thoreau, whose philosophy of wilderness is defined in the context of the Transcendental conception of man. Thoreau grounded his argument for the importance of wilderness on the idea that wilderness is the source of vigour, the essential "raw-material of life," as it is in the fable of Rome's founders suckled by a wolf. Actually Thoreau distinguished between "wilderness" (physical and geographical) and "wildness" (a matter of internal environment, "the primitive vigor of Nature in us"). But he valued wilderness, i.e. wild country, as offering the necessary freedom for the inward journey into wildness, and with this concept, he "led the intellectual revolution that was beginning to invest wilderness with attractive rather than repulsive qualities."

Once wilderness became appreciated, the cry arose to preserve it, and the idea of saving wild country in parks and natural preserves gained momentum. Perhaps we did not all know that Yellowstone National Park (an area of over 2,000,000 acres set aside in 1872) was the world's first instance of large-scale wilderness preservation.

The first publicizer of the rationale for wilderness preservation was John Muir, a self-styled "poetico-trampo-geologist-bot, and ornithnatural etc.!" This is the man who founded the Sierra Club with its Thoreau legacy; and in near-plagiarism of Thoreau, Muir maintained that "in God's wilderness lies the hope of the world—the great fresh, unblighted, wilderness."

Today the Sierra Club, founded in 1892 to explore and preserve the Sierra Nevada Mountains, keeps alive the spirit of John Muir. It sponsors trips into primitive regions and conferences, it publishes books, and exerts



Photo by Robert R. Taylor

Wilderness preserved: a beaver pond in a valley in the Cypress Hills Provincial Park.

pressure on governments — all in the interest of wilderness. Some of you may know the handsomely illustrated publications of the Sierra Club. A few years ago I discovered one of these, a delightful collection of passages from Thoreau, accompanied by exquisite coloured camera studies of the Eastern woods in which Thoreau made his observations on nature and man. For the title of this lovely little book Thoreau's statement is used:

In wildness is the preservation of the world.

National concern over conservation was followed by a veritable wilderness cult. For example, Joe Knowler made headlines in 1913 in the *Boston Post* by plunging naked into the Maine woods to live alone for 60 days. Camping and the Boy Scouts movement became popular, Theodore Roosevelt espoused the cause of wilderness,

Walt Whitman retreated to Timber Creek "to the naked source-life of us all — to the breast of the great silent savage all-acceptive Mother" (*Song of Myself*), Jack London wrote his best seller *The Call of the Wild*, and natural history became a major literary genre.

Widespread public acceptance of these ideas made it possible for preservationists to arouse a national protest in 1913 against the construction of a dam in Yosemite's wild Hetch Hetchy Valley. The building of the dam was not prevented, but a national conservation consciousness was built at the same time.

One of the favourite American preservationists is Aldo Leopold, author of the classic *Sand County Almanac*. Nash shows briefly how Leopold introduced the modern concepts of "an ecological conscience" and

"land ethic" into Thoreau's philosophy of the importance of wilderness; and of course he points out that Leopold's contribution was great chiefly because he was able to speak so persuasively in his books.

The final chapter of Nash's book ends with the hope that such contributions can be rendered permanent by the organization of spirited people who will fight for the freedom of the wilderness," and the urgency of this need is conveyed in a quotation from Wallace Stegner (1960):

Something will have gone out of us as a people if we ever let the remaining wilderness be destroyed. . . . Without any . . . wilderness we are committed . . . to a headlong drive into our technological termite-life, the Brave New World of a completely man-controlled environment . . . We simply need that wild country available to us, even if we never do more than drive to its edge and look in . . . [as] part of the geography of hope."

By this quotation we are reminded of the complex way in which wild country can be available to us, through writing and painting and sound recordings, as well as by its actual physical presence. To listen, for example, to the recordings made from Dan Gibson's film is to enjoy an evening or early morning in the wild "Land of the Loon." Stegner's words convey the final message of Nash's book, the paradoxical need for "wilderness in civilization." In this, both Nash and Stegner echo the thoughts expressed a century earlier by Thoreau in his concrete, imaginative prose:

We need the tonic of wildness, to trade sometimes in marshes where the bittern and the meadow-hen lurk, and hear the booming of the snipe; to smell the whispering sedge where only some wilder and more solitary fowl builds her nest, and the mink crawls with its belly close to the ground. At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be infinitely wild, unsurveyed and unfathomed by us because unfathomable. We can never have enough of nature.

We must be refreshed by the sight of inexhaustible vigor, vast and titanic features, the sea-coast with its wrecks, the wilderness with its living and its decaying trees, the thunder cloud, and the rain which lasts three weeks and produces freshets. We need to witness our own limits transgressed, and some life pasturing freely where we never wander."

WILDERNESS AND THE AMERICAN MIND. 1967. By Roderick Nash. Yale University Press, New Haven and London. 256pp.

"IN WILDERNESS IS THE PRESERVATION OF THE WORLD." 1962. From Henry David Thoreau. Selections and photographs by Eliot Porter. Sierra Club, Mills Tower, San Francisco. (Re-published in 1967 by the Sierra Club and Ballantine Books, New York.) 158pp.

LAND OF THE LOON. 1968. Long-playing record, featuring wildlife sounds from Dan Gibson's award-winning films "White-throat" and "Land of the Loon." Recorded in Algonquin Provincial Park. Produced by Dan Gibson Productions, Ltd., 196 Bloor St. W., Toronto 5, Ontario.

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FLORA OF THE PRAIRIE PROVINCES, PART II — DIGITATAE, DIMERAE, LIBERAE. By Bernard Boivin. 1968-69. *Provancheria*, No. 3, Université Laval, reprinted from *Phytologia*, Vol. 16-18. 185pp.

This is a continuation of Part I which was reviewed here in June 1968. This Part II is a collation of four sub-parts which were first published in *Phytologia*, 16 219-261, 266-339, (1968), and 17, 58-112, 281-293, (1969).

The plants treated here in Part II comprise the main mass of non-woody, polypetalous and apetalous dicots; important families are *Ranunculaceae* (Buttercups), *Cruciferae* (Mustards), *Caryophyllaceae* (Chickweeds and Campions), *Polygonaceae* (Buckwheat Family), *Chenopodiaceae* (Goosefoot Family), *Primulaceae* (Primroses), *Onagraceae* (Evening

Primrose Family), *Saxifragaceae* (Saxifrages), and *Umbelliferae* (Carrot Family).

The part opens with a four-page review of the characteristics of some of the larger families and genera (of our whole flora). Learning these characteristics will greatly simplify the task before the beginner, as the author points out.

Next follows the general key to the herbaceous dicots. One can see that the author has taken pains to use easily observable characters as much as possible. Cross references are made to deceptive forms that may show up in the wrong place, such as the mention of *Araceae* (Arum Family) in the part of the key dealing with dicots with flowers in bracted heads.

The text treatment of genera and species continues with the complete, critical, and concise approach of Part I. Here one will find no species omitted because it is rare. Every literature report of obscure species has been run down doggedly by the author by borrowing specimens or checking through herbaria until either proven or exploded; and he presents his evidence. Likewise the evidence bearing on disputed names is fully presented (which may be of little interest to the beginner). This sort of thing involves a tremendous amount of work by the botanist in examining multitudes of borrowed specimens and checking literature references, some quite ancient.

The non-standard arrangement of the families in this work was discussed in the review of Part I; here it is only needful to mention that this causes awkwardness in using the keys in addition to those inherent in using a work published by parts. For example, herbaceous groups such as *Violaceae*, assigned to the Lignidae of Part I, could not be keyed to until Part II came out, because the general key to herbaceous dicots is in Part II; and similarly many genera in *Primulaceae*, appearing in Part II, cannot be reached by the key here because they have a corolla of united petals, and plants with petals united are to be keyed out in Part III.

And now a few comments on specific points: —

The reduction of all White Water Crowfoots to varieties of *R. aquatilis* L. seems justified.

The statement, pp. 45 and 52, that there are only 2 seeds per locule in *Thlaspi arvense* (Stinkweed), is a slip, in that there are more, of the order of 5 or 10.

The question raised in the review of Part I about the meaning of Boisé Coteau has been answered in a footnote of p. 79 of this part; it is the Cypress Hills plus Wood Mountain and adjoining plateaux.

The weedy peppergrasses (*Lepidium*) have been split into 4 species: *L. ruderalis*, *L. densiflorum*, *L. bourgeauanum*, and *L. ramosissimum*. This reviewer can recognize the first and last of these species as different from *L. densiflorum*, but will have to try out *L. bourgeauanum* in practice before having an opinion.

The change of name of *Lychnis alba* A.A. to *X. L. loveae* Boivin may be noted. Also *L. drummondii* A.A. has been changed to *L. pudica* Boivin (A.A. just means American authors that is, common usage). This latter change seems well taken to this reviewer, in that visible petals are ascribed to *L. drummondii* in floras but he could never find any petals of our plant.

The complete treatment of *Rumex* will be greatly appreciated. We have had such an immigration of weedy docks of late decades that no current flora is much use on the subject. Indeed, there are even two large native species, *R. orbiculatus* and *R. occidentalis*, that are simultaneously treated in few current floras.

The amalgamation of *Polygonum amphibium* and *P. coccineum* (Pin Smartweeds) is a little daring.

The relegation of *Chenopodium dacoticum* Standl. [alias *C. berlandieri* Moq. var. *farinosum* (Ludwig) Aellen] to synonymy under *C. album* L. is disagreed with by this reviewer. I suppose the trouble is that its highly characteristic odour of dead fish in life does not long withstand drying.

The habitat of *Oenothera flava* is more often disturbed dried-out slough bottoms than "steppes and eroded hill-sides", p. 145.

Lysimachia terrestris and *L. thyrsi-flora* may be hard to reach through the keys, as their corollas, nominally gamopetalous, are so deeply divided as to appear polypetalous. This being so, they could have been keyed here in Part II.

We shall be looking forward to Parts III and IV with interest. No doubt they will contain a few surprises.—*John H. Hudson*, Saskatoon.

A PRELIMINARY LIST OF THE BUTTERFLIES OF SASKATCHEWAN. 1969. By Ronald R. Hooper, Assoc. of Minnesota Entomologists, 439 East 80th St., Bloomington, Minnesota, 55420. Price: 50 cents.

Saskatchewan's first butterfly list has just recently been published by the Association of Minnesota Entomologists. It is included in a series of booklets known as "The Mid-continent Lepidoptera Series," which is being edited by John Masters of Minneapolis, Minnesota. The author of the list is Ronald R. Hooper, who, with his twin brother, Donald, has been collecting and studying Saskatchewan butterflies for the past 17 years. Mr. Hooper is employed with the Saskatchewan Museum of Natural History in Regina to work on insects. Many of the butterfly records in the list resulted from field trips for the Museum.

The list includes 120 species of butterflies that were taken in 68 different localities. All of the recorded species, except five, have been collected by the author or his brother.

The 1942 Manitoba list records 127 species of butterflies for that province and 140 species are included in the 1951 Alberta list. It would appear, therefore, that there are from 10 to 20 species yet to be discovered in Saskatchewan. The author hopes to have a more complete list published in a few years' time.—**Ronald R. Hooper**, Port Qu'Appelle.

WILDLIFE IN JAPAN. By Kojo Tanaka. Yama-To-Keikoku Sha Co. Ltd., Tokyo, Japan. 198 pp.

Kojo Tanaka visited Canada from May 5 to June 16, 1969, taking 300 rolls of mammal and bird photographs, later accepted by popular Japanese journals and by a publisher of children's books for publication. The writer was one of the people fortunate enough to meet him briefly during his visit, and in July received a set of ten postcards and the delightful book which immediately inspired this review. Mr. Tanaka's card describes him as a professional photographer of animals and as a member of the Japan Photographer's Society, Mammalogical Society of Japan, and The Japanese Association for the Protection of Birds.

This beautiful little book is essentially a book of Kojo Tanaka's superb photographs of Japanese wildlife. The 86 color photographs of 62 species make a book resplendent in brilliant color. Accompanying each photograph is about a page of narrative in Japanese and a shorter English account. The table of contents, index and a map of Japan are all in Japanese without English translation, but little is lost, for the real value of the book is found in its many photographs, which speak an international language of nature's splendour.

The photographs include a number of familiar species, including Night Heron (our Black-crowned), Mallard Duck, Golden Eye (our Common Goldeneye), Herring Gull, Eastern Dunlin (our Dunlin), and Magpie (our Black-billed). Most of the plates, however, are of species exotic to the dweller of the Canadian prairies. The photographs vary in size from inserts of about one-quarter page to two full pages, and in context from close looks at the animal itself to wider views of the animal in its habitat. The greater immediate appeal of the closer views is well balanced with greater information provided and ultimate satisfaction obtained from the wider views.

One learns so much more about the Moriao Tree Frog by seeing a pair in their curious nest of foam suspended in branches overhanging the water; about the Pelagic Shag as a colony on a cliff towering above the water; about Gray Starlings as a flock rising from the trees; and about the Steller's Sea Eagle as a figure standing regally on top of a majestic ice-floe than one would by looking at the animal by itself. One learns even more about some species by viewing them in a series of photographs—such as the five pictures of the Loggerhead Turtle, from eggs to young to adult; or the three pictures of the Black-tailed Gull, from colony, to smaller social group, to adult with two young. The 33 plates of 23 species of mammals, eight pictures of five reptile species, four photographs of four amphibian species, and 41 shots of 30 species of birds are all so well done that one would find it impossible to choose the nicest or the best. Perhaps most appealing to this reviewer were the two-page close look at a Momonga Flying Squirrel, the Ural Owl looking down from the slender branch of a bare tree, and the two young Black-tailed Gulls calling insistently at an apparently indifferent parent.

In his brief introduction to the book, Richard C. Goris of the Herpetological Society of Japan, says of Kojo Tanaka, "He loves animals, he loves the solitude of the hills and forests, and he is disturbed by the encroachment of civilization on the habitat of the animals." Surely the key to conservation is education through experience. The photographs in this book are so well taken and so well balanced to show the animals as both individuals and portions of the greater environment that they help provide that experience. The message of conservation is even better given by combining choice sentences with exquisite photographs. The statement about the Crested Ibis that "once seen throughout the country, it is now reduced to one individual in Ishikawa Prefecture and 11 on Sado Island, of which 3 are in captivity" is much more

striking when one looks at the two splendid photographs of the bird. Similarly, while viewing the photograph of two White Storks at their nest, the information that "Once seen throughout Japan, there are now only ten left in Hyogo Prefecture" hits much harder. One can only feel exasperated on learning that the Giant Salamander, "largest amphibian in the world" is "often eaten as a delicacy" even though "protected" by law. One can only hope that this book and books like it throughout the world will help keep Kojo Tanaka's fear that "within a few years the only record to remain of certain animals will be the photographs presented" from ever becoming a reality.

I strongly recommend this book to any naturalist travelling in Japan—not as a guide or a complete book of facts—but purely as a book to enjoy. In conclusion, I would like to join Richard C. Goris in his statement, "I would like to thank Tanaka in the name of the scientific and nature-loving community of the world for this precious work."—*Martin K. McNicholl*, Winnipeg.

BY A THOUSAND FIRES. By Julia M. Seton. 1967. Doubleday & Co., N.Y. Black and white illustrations. 143 pp.

By a Thousand Fires introduces us to some of the unpublished journals of Ernest Thompson Seton and gives us a great deal of insight into one of North America's great naturalists. In reading these pages we can sense his artistic temperament and love of nature. Descended from Lord Seton, who supported the losing side in the Jacobite rising in the 18th century, Seton assumed the old family name which his family had discarded, though still keeping Thompson, and finally built Seton Castle in New Mexico when he retired. He developed an intense antagonism to his father and General Custer, and we are given some insight into the character of Victorian personalities as well as the development of an artist-natural historian.

His stay in Manitoba and his years as Official Naturalist he called his golden days. He left Manitoba to live in New York, where he illustrated a thousand plates for the Century Dictionary. He became the friend of Theodore Roosevelt and Rudyard Kipling, held discussions with Baden Powell before the formation of the Boy Scouts, and became the first Chief Scout of America, although he only became an American citizen in the 1930's after urgings from Theodore Roosevelt. In addition to further evidence of his natural history interests, we have records in these jour-

nals of fables he had written, of his experiences with tramps, essays on such things as the effect of health on intellectual vigor, the different effects of pork and beef on racial development, and a number of personal reminiscences and experiences.

What Julia Seton tells us about her late husband shows us a great deal about the mind and personality of the great naturalist whose books many of us have in our personal libraries and whose work on the natural history of North America will always remain.—
Tom White, Regina.

SASKATCHEWAN NATURAL HISTORY SOCIETY

ANNUAL MEETING, October 17-18, 1969

The 1969 Annual Meeting of the Saskatchewan Natural History Society will be held October 17-18 in Regina, at the Saskatchewan Museum of Natural History.

There will be an informal programme and reception in the Museum Friday evening, with registration beginning at 7:30 p.m. Business and programme sessions will be held Saturday morning and afternoon, beginning at 9:30 and 1:30. In the evening there will be a dinner and special lecture.

Guest speaker for Saturday evening will be Dr. Stan Rowe, Professor of Plant Ecology, University of Saskatchewan, Saskatoon. Dr. Rowe has been working this summer on an IBP-CT programme on natural areas (International Biological Programme). He will report on progress made, and show slide pictures.

Resolutions should be sent to the first vice-president, Mr. Gordon Silverthorn, 1201 Grace Street, Moose Jaw.

NOMINATIONS

Nominations should be sent to the Recording Secretary, Marie Gillespie, 1111 Eleventh Street E., Saskatoon. She will direct them to the Nominating Committee which will be appointed at the September meeting of the Board.

BUSINESS

Members are urged to participate in the business of the annual meeting by bringing suggestions about the conduct of the Society's programme, and especially for maintaining membership. Please let the Society's officers know whenever you know of problems involving *Blue Jay* subscriptions, and help find new subscribers.

SNHS SUMMER MEETING, JUNE 13-15, 1969



Mr. F. Larochelle, M.L.A. for Shaunavon, unveiling the cairn marking the Society's Prairie Dog Sanctuary, June 14, 1969.



Photos by Gary Seib

The beautiful cairn of prairie stone raised by Ruth and David Chandler for the sanctuary.

THE SASKATCHEWAN NATURAL HISTORY SOCIETY

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